APPENDIX C

Public Scoping Documents

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APPENDIX C - INDEX TO PUBLIC SCOPING COMMENTS

On July 12, 2016, the California State Lands Commission (Commission or CSLC), as lead agency under the California Environmental Quality Act (CEQA), issued a Notice of Preparation (NOP) and initiated a 30-day public comment period on the scope and content of the Environmental Impact Report (EIR) for the San Onofre Generating Station (SONGS) Units 2 and 3 Decommissioning Project (see EIR Section 1.4.3, *Public Scoping (2016)*). On July 26 and July 27, CSLC staff also held public meetings in Oceanside and San Clemente, respectively, to receive comments on the scope of the EIR. Appendix B contains the comments received during public scoping, including letters and emails, transcripts of the scoping meetings, and written comments submitted at the scoping meetings. Tables C-1 and C-2 below list the commenters and assign an identification number used to refer the reader to where the comment is addressed in the EIR.

Table C-1. Scoping Commenters and Comment Set Numbers

Agency/Affiliation/Individual		Date of Comment	NOP Comment Set
Applicant	Southern California Edison	08/12/16	1
Agency (State)	California Coastal Commission	08/11/16	2
	Department of Fish and Wildlife	09/09/16	3
	Department of Toxic Substances Control	08/03/16	4
	Department of Transportation, District 11	07/25/16	5
	Native American Heritage Commission	07/29/16	6
Agency (Local, Regional)	City of Laguna Beach	08/12/16	7
	City of San Diego Public Library	07/27/16	8
	County of Los Angeles Fire Department	08/16/16	9
	County of Riverside Transportation and Land Management Agency	08/11/16	10
	County of San Diego Planning & Development Services	08/18/16	11
	North County Transit District	08/15/16	12
Tribal	Pala Tribal Historic Preservation Office	07/27/16	13
Non-Governmental Organization	Alliance for Nuclear Responsibility	08/14/16	14
	Amtrak Environment & Sustainability	08/04/16	15
	Orange County CoastKeeper	08/11/16	16
	Public Watchdogs	08/15/16	17
	SanOnofreSafety.org	08/15/16	18
	Sierra Club Angeles Chapter	08/15/16	19
	The Nicholas Endowment	08/14/16	20
Individual	Jerry and Carol Collamer	08/01/16	21
	Marilyn Fuss	08/13/16	22
	Daryl Gale	08/16/16	23
	Hallie Glaze	08/15/16	24
	W.G. Harris	07/21/16	25
	Dr. Rose O. Hayes	08/13/16	26

Table C-1. Scoping Commenters and Comment Set Numbers

Agency/Affiliation/Individual		Date of Comment	NOP Comment Set
	Ace Hoffman	08/15/16	27
	Ronald D. Kennedy	10/25/16	28
	Marni Magda	08/12/16	29
	Barbara Metzger	08/14/16	30
	Rita Pescador	08/15/16	31
NOP Scoping Meeting 1 (in order of appearance)	Peter Stoup, Post Ignorance Project	07/26/16	32-1
	Rick Wilson, Surfrider Foundation		32-2 to 32-5
	Ray Lutz, Citizens' Oversight		32-6 to 32-7
	Nina Babiarz, Women's Transportation Seminar		32-8 to 32-9
	Charles Langley, Public Watchdogs		32-10 to 32-13
	Ace Hoffman		32-14-32-16
	Greg Alexander		32-17
	Daniel Beeman (plus comment card)		32-18 to 32-20
	Abel Alcaraz (comment card)		32-21
NOP Scoping Meeting 2 (in order of appearance)	Donna Gilmore	07/27/16	33-1 to 33-3
	Marni Magda, Sierra Club Angeles Task Force on San Onofre		33-4 to 33-6
	Geoff Harris (plus comment card)		33-7 to 33-9, 33-19
	Cybil Street		33-10
	Barbara Metzger (comment card)		33-11 to 33-12
	Verna Rollinger (comment card)		33-13

Table C-2. Index to Public Scoping Comments

Comment #	Location Where Comment is Addressed in EIR
Southern California Edison (Applicant)	
1-1	Sections 1.0, *Introduction*, and 2.0, *Project Description*, identify the Proposed Project (2019 through 2028) as the project (as defined in CEQA, § 21065 and State CEQA Guidelines, § 15378) and distinguish the Proposed Project from the Approved Independent Spent Fuel Storage Installation (ISFSI) Expansion, Operation, and Maintenance (2015 through 2035) and Future Activities (estimated from 2035 to anticipated completion in 2051).
1-2	Sections 1.2.1.1, *U.S. Department of Navy/Marine Corps Base Camp Pendleton*; 1.2.2.2, *California Coastal Commission*; 1.2.2.3, *Settlement Agreement*;[1] 1.5.2, *Uncertainty Regarding Future Decommissioning Plan Activities*; and 2.4, *Future Activities (~2035)* disclose that aspects of Future Activities are unknown and will be subject to future agency approvals. Where applicable, information is disclosed based on the best available information to date or reasonable assumptions as to anticipated activities.

[1] *Citizens Oversight, Inc., et al. v. California Coastal Commission, Southern California Edison Company, et al.*, Superior Court for County of San Diego Case No. 37-2015-00037137-CU-WM-CTL.

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Comment #	Location Where Comment is Addressed in EIR
1-3	Sections 1.2.2.2, *California Coastal Commission,* 1.2.2.3, *Settlement Agreement*, and 1.5.1, *Baseline and Future Conditions*, identify the ISFSI and its expansion as approved projects and part of Proposed Project baseline conditions.
1-4	Section 5.0, *Project Alternatives Analysis*, presents alternatives to Proposed Project activities or their locations that would feasibly attain most of the basic project objectives but would avoid or substantially lessen any significant effects of the Proposed Project, and evaluates the comparative merits of the alternatives. This section describes the screening methodology to identify reasonable alternatives, identifies alternatives eliminated from further consideration, and provides descriptions and impact analyses for each alternative considered.
1-5	See comment above. Section 1.2.1.3, *Federal Preemption*, also discusses federal preemption of radiological decontamination and release requirements and spent nuclear fuel and high-level radioactive waste handling, storage, transport, disposal, and monitoring.
1-6	See comment above. Where applicable, Section 4.0, *Environmental Impact Analysis*, identifies potential significant impacts and feasible mitigation measures to reduce those impacts even if the CEQA lead agency may not have the authority to impose all proposed mitigation measures.
1-7	Applicable technical corrections and other clarifications in the attached table have been made throughout the EIR.
California Coastal Commission	
2-1	Section 1.2.2.2, *California Coastal Commission*, includes information on past and future Coastal Commission coastal development permit reviews.
2-2	Section 5.0, *Project Alternatives Analysis*, presents a reasonable range of Proposed Project alternatives. Section 4.12, *Recreation and Public Access*, analyzes this environmental issue. Section 2.4, *Future Activities (~2035)*, discusses that the ISFSI would be dismantled as part of Future Activities, along with the seawall (which acts as a security barrier), access walkway, and riprap. (See also Table 2-3 in Section 2.0, *Project Description*.)
2-3	The seawall (which acts as a security barrier), public beach access walkway, and riprap, which are structurally inter-related, are proposed to remain in place during the Proposed Project. (See also Table 2-3 in Section 2.0, *Project Description*.) Removal or retention of these structures will be analyzed as part of future activities (see Section 2.4, *Future Activities (~2035)*, and Section 4.7.7.1, *Geology, Soils, and Coastal Processes – Future Activities – Riprap*).
2-4	Section 5.4.4, *Full (or Partial) Removal of Onshore Subsurface Structures*, evaluates an alternative to remove these structures. Removal of onshore subterranean structures will be made by the U.S. Department of the Navy as part of Future Activities.
2-5	Section 4.2, *Aesthetics*, addresses this environmental issue. Alternatives are presented in Section 5.0*, Project Alternatives Analysis*.

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Comment #	Location Where Comment is Addressed in EIR
2-6	Section 4.4, *Biological Resources*, addresses this environmental issue. Alternatives are presented in Section 5.0*, Project Alternatives Analysis*.
California Department of Fish and Wildlife	
3-1	Section 4.4., *Biological Resources*, identifies marine species and habitats in the Proposed Project area.
3-2	Sections 1.3, *Proposed Project Objectives*, and 2.3, *Proposed Project Activities*, identify staging, laydown, and storage areas (see Section 2.3.1, *Site Preparation*). Figures 2-4 and 4.3-2 show the SONGS site and work area access points and truck and rail routes. Section 4.4, *Biological Resources*, evaluates impacts and mitigation for this environmental issue.
3-3	Alternatives are presented in Section 5.0*, Project Alternatives Analysis*, including full removal of the offshore conduits (see Section 5.4.2). The riprap is part of baseline conditions. Disposition of the seawall (which acts as a security barrier) and riprap is discussed under Comment #2-3. (See also Table 2-3 in Section 2.0, *Project Description*.)
3-4	Impact BIO-11 in Section 4.4, *Biological Resources*, evaluates underwater noise impacts. Appendix F3 provides background information on noise fundamentals, acoustic thresholds for marine life, and estimated noise levels from activities anticipated under the Proposed Project and alternatives.
3-5	Section 4.4, *Biological Resources*, addresses this environmental issue. Alternatives are presented in Section 5.0*, Project Alternatives Analysis*.
3-6	Impact BIO-4 in Section 4.4, *Biological Resources*, considers the Proposed Project's potential to affect waters of the U.S./State and other waters.
3-7	Section 4.4, *Biological Resources*, considers the Proposed Project's potential to affect listed plants and animals and Species of Special Concern.
3-8	Section 4.4.1, *Environmental Setting (Terrestrial)*, describes the flora and fauna on the Project site and adjacent areas.
3-9	Section 4.4, *Biological Resources*, including Section 4.4.6, *Cumulative Impacts*, considers the Proposed Project's potential for direct, indirect, and cumulative impacts on biological resources.
3-10	Section 4.4, *Biological Resources*, considers the Proposed Project's potential to affect listed plants and animals and Species of Special Concern.
3-11	Impact BIO-2 in Section 4.4, *Biological Resources*, considers the Proposed Project's potential to impact nesting birds.
3-12	Impact BIO-1 in Section 4.4, *Biological Resources*, evaluates restoration and revegetation and the need for qualified monitors.
California Department of Toxic Substances Control	
4-1	Section 4.1, *Hazardous and Radiological Materials*, addresses current and historic uses of the site and need for further investigation or remediation.
4-2	Sections 4.1, *Hazardous and Radiological Materials*, address hazardous wastes at the Proposed Project site and their management during decommissioning, including the need for precautions prior to decommissioning activities to address hazardous materials.
4-3	Section 4.9, *Hydrology and Water Quality*, under Impact WQ-1 discusses the need for a National Pollutant Discharge Elimination permit. Project

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Comment #	Location Where Comment is Addressed in EIR
	permits and other approvals are listed in Table 1-6*, Other Anticipated SONGS Decommissioning Plan Approvals*.
California Department of Transportation	
5-1	Section 4.13, *Transportation and Traffic*, addresses potential impacts on State transportation facilities. Transportation-related permits are listed in Table 1-6, *Other Anticipated SONGS Decommissioning Plan Approvals*.
Native American Heritage Commission	
6-1	The CSLC initiated consultation, and will continue to consult, with Native American Tribes consistent with AB 52 requirements. Section 4.6, *Cultural Resources -Tribal*, discusses potential significant impacts to Tribal cultural resources from the Proposed Project.
6-2	Sections 4.5, *Cultural and Paleontological Resources*, and 4.6, *Cultural Resources – Tribal*, identify mitigation measures for potential significant impacts to cultural and Tribal cultural resources from the Proposed Project.
6-3	Sections 4.5, *Cultural and Paleontological Resources*, and 4.6, *Cultural Resources – Tribal*, address NAHC resource assessment recommendations.
City of Laguna Beach	
7-1	CSLC staff held scoping meetings in Oceanside and San Clemente as discussed in Section 1.4.3, *Public Scoping (2016)*.
7-2	The Proposed Project is not anticipated to affect transportation facilities within the City of Laguna Beach's jurisdiction. Figure 4.3-2, Proposed In-State Transportation Routes and Air Jurisdictions, in Section 4.3, *Air Quality*, shows anticipated truck and rail decommissioning waste haul routes for the Proposed Project. Section 2.3.8, *Decommissioning Waste Volumes and Disposal Sites*, identifies decommissioning waste disposal sites. Section 4.13 evaluates potential significant impacts on transportation and traffic. Section 1.2.1.3, *Federal Preemption*, identifies that the U.S. Department of Transportation (DOT) and NRC are responsible for regulating the transport of radioactive materials. The DOT regulates shippers of radioactive materials, including vehicle safety, routing (including highway routing restrictions for certain waste shipments), documentation, emergency response, and training, while NRC regulations contain performance requirements for certain types of transportation packages of radioactive material, and the design, fabrication, use, and maintenance of shipping containers for high-level radioactive waste is under the NRC's jurisdiction. (See 49 Code of Federal Regulations Parts 171-177 and 10 CFR Part 71.) Transport of spent nuclear fuel is not part of the Proposed Project and is anticipated to occur during Future Activities (~2035). Under the terms of a Settlement Agreement (see Comment #1-2), the Applicant must develop a Transportation Plan and Strategic Plan to transport spent nuclear fuel. The EIR includes two appendices (D1 and D3) that contain background information on transportation of radioactive materials. Section 4.14.1.1*, Utilities and Public Service Systems – Public Services*, also notes that during the Proposed Project, SONGS would be supported by

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Comment #	Location Where Comment is Addressed in EIR
	the medical centers in Laguna Beach and Mission Viejo (Mission Hospital Regional Medical Center.
7-3	The NRC is not preparing a new EIS for the SONGS Decommissioning Plan to supersede or supplement its 2002 Final Generic GEIS on Decommissioning of Nuclear Facilities Supplement (GEIS Supplement; NUREG-0586), which analyzed environmental impacts associated with the decommissioning of nuclear power plants throughout the country. See Section 1.2.1.2, *Nuclear Regulatory Commission*, Section 1.2.1.3, *Federal Preemption*, Section 1.4.2, *Project Context with Respect to the National Environmental Policy* Act, and Section 1.5, *Purpose and Scope of EIR*. The Department of Navy will act as NEPA lead agency for future actions related to easements on its property.
7-4	CSLC staff forwarded your letter with request and concerns to the NRC Office of Nuclear Material Safety and Safeguards. The CSLC staff cannot require the NRC to prepare a new EIS or joint EIR/S.
7-5	Sections 1.1, *Proposed Project Background and Location*, and 1.5, *Purpose and Scope of EIR*, address the EIR's purpose and scope, which include providing agencies and the public with detailed information about the effect which the Proposed Project is likely to have on the environment, listing ways in which the significant effects of the Proposed Project might be minimized, and identifying alternatives to the Proposed Project. The Approved ISFSI Expansion, Operation, and Maintenance component of the SONGS Decommissioning Plan is distinguished from the Proposed Project because the California Coastal Commission approved the existing ISFSI expansion to accommodate all remaining spent nuclear fuel at SONGS (see Section 1.5.1, *Baseline and Future Conditions*).
7-6	Federal preemption is discussed in Section 1.2.1.3.
7-7	Environmental issues not subject to Federal Preemption or part of baseline, including cumulative impacts, are evaluated in Section 4.0, including Sections 4.1, *Hazardous and Radiological Materials*, 4.3, *Air Quality*, 4.4, *Biological Resources*, 4.8, *Greenhouse Gas Emissions*, 4.9, *Hydrology and Water Quality*, etc. Cumulative projects are listed in Section 3.0. Section 5.0, *Project Alternatives Analysis*, presents alternatives to the Proposed Project. Technical information is also provided in multiple appendices.
City of San Diego Public Library	
8-1	The library recently notified CSLC staff that is a now a selective depository that no longer receives all state documents.
County of Los Angeles Fire Department	
9-1	Staff acknowledges that the Proposed Project area is not a part of the emergency response area of the Los Angeles Fire Department. Information on the role of the Marine Corps Base Camp Pendleton Fire Department is incorporated into the EIR in Section 4.1, *Hazardous and Radiological Materials*, and Section 4.14, *Utilities and Public Service Systems*. See also Section 2.2.3.1, *Emergency Planning*.

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Comment #	Location Where Comment is Addressed in EIR
County of Riverside Transportation and Land Management Agency	
10-1	Figure 4.3-2 in Section 4.3, *Air Quality*, shows anticipated truck and rail decommissioning waste haul routes. Section 2.3.8, *Decommissioning Waste Volumes and Disposal Sites*, identifies disposal sites for decommissioning wastes. Potential significant impacts on transportation and traffic are evaluated in Section 4.13. Section 1.2.1.3, *Federal Preemption*, identifies that the U.S. Department of Transportation (DOT) and NRC are responsible for regulating the transport of radioactive materials. The DOT regulates shippers of radioactive materials, including vehicle safety, routing (including highway routing restrictions for certain waste shipments), documentation, emergency response, and training, while NRC regulations contain performance requirements for certain types of transportation packages of radioactive material, and the design, fabrication, use, and maintenance of shipping containers for high-level radioactive waste is under the NRC's jurisdiction. (See 49 Code of Federal Regulations Parts 171-177 and 10 CFR Part 71.) Transport of spent nuclear fuel is not part of the Proposed Project and is anticipated to occur during Future Activities (~2035). Under the terms of a Settlement Agreement (see Comment #1-2), the Applicant must develop a Transportation Plan and Strategic Plan to transport spent nuclear fuel. The EIR includes two appendices (D1 and D3) that contain background information on transportation of radioactive materials.
10-2	Section 4.13, *Transportation and Traffic*, addresses impacts associated with traffic increases along local and regional roads (see Impact TR-1). Appendix I contains the Traffic Study for the Proposed Project. See also comments above on Federal Preemption and future transport of spent nuclear fuel.
10-3	The Applicant must obtain all necessary transportation permits to implement the Proposed Project if approved.
County of San Diego Planning & Development Services	
11-1	This information is included in Table 1-6, *Other Anticipated SONGS Decommissioning Plan Approvals*.
11-2	Section 4.1, *Hazardous and Radiological Materials*, identifies and evaluates the use, handling, storage, and disposal of hazardous wastes and materials during the Proposed Project (see Section 4.1.1.6, *Waste Materials*, and Section 4.1.4, *Environmental Impact Analysis and Mitigation*, Impact HAZ-4).
11-3	The information is provided in Section 4.1.2, *Hazardous and Radiological Materials – Regulatory Setting.* Appendix A, *Abridged List of Major Federal and State Laws, Regulations, and Policies Potentially Applicable to the Proposed Project*, identifies federal and state regulations applicable to hazardous waste/material management and disposal. See also Section 4.14.1.1, *Public Services*.
11-4	Section 4.13, *Transportation and Traffic* (Impact TR-1), evaluates impacts associated with haul trips generated by the Proposed Project. Figure 4.3-2, in Section 4.3, *Air Quality*, shows anticipated truck and rail decommissioning waste haul routes. Section 2.3.8, *Decommissioning Waste Volumes and*

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Comment #	Location Where Comment is Addressed in EIR
	Disposal Sites, identifies decommissioning waste disposal sites. Appendix I contains the Traffic Study for the Proposed Project. See also comments above on Federal Preemption and future transport of spent nuclear fuel.
11-5	This information is included in Table 1-6, *Other Anticipated SONGS Decommissioning Plan Approvals*. Section 4.13, *Transportation and Traffic*, also identifies the need for permits for transport of certain loads.
11-6	Section 4.13, *Transportation and Traffic*, identifies County of San Diego standards for traffic impact analysis and significance used in this EIR.
11-7	Impact HAZ-4 in Section 4.1, *Hazardous and Radiological Materials*, evaluates non-radiological hazardous materials, such as asbestos.
11-8	Impact HAZ-2 in Section 4.1, *Hazardous and Radiological Materials*, evaluates the need for additional emergency response capabilities during decommissioning. See also Sections 2.2.3.1, *Emergency Planning*, and 4.14.1.1, *Public Services*.
11-9	Section 4.1, *Hazardous and Radiological Materials*, addresses the potential for hazardous and radiological material releases and preparedness and response measures. See also Sections 2.2.3.1, *Emergency Planning*, and 2.3, *Proposed Project Activities*.
North County Transit District	
12-1	Section 2.3, *Proposed Project Activities*, and Section 4.13, *Transportation and Traffic*, include information on the North County Transit District and LOSSAN Rail Corridor and Proposed Project rail modifications. Section 4.13 evaluates potential significant impacts on rail facilities and operations. Transport by rail of spent nuclear fuel is not part of the Proposed Project and is anticipated to occur during Future Activities (~2035). Under the terms of a Settlement Agreement (see Comment #1-2), the Applicant must develop a Transportation Plan and Strategic Plan to transport spent nuclear fuel. Since that plan is not available at the time of preparation of this EIR, to maximize disclosure to the public, the EIR includes two appendices (D1 and D3) that contain background information on transportation of radioactive materials.
12-2	These environmental issues are evaluated in Sections 4.3, *Air Quality*, 4.4, *Biological Resources*, 4.1, *Hazardous and Radiological Materials*, and 4.9, *Hydrology and Water Quality*, respectively. Emission calculations for the Proposed Project are provided in Appendix E1.
12-3	
12-4	
12-5	
12-6	Table 1-6, *Other Anticipated SONGS Decommissioning Plan Approvals*, lists anticipated permits and approvals for the Proposed Project.
Pala Tribal Historic Preservation Office	
13-1	Sections 4.6, *Cultural Resources – Tribal*, identifies potential significant impacts to cultural and Tribal cultural resources from the Proposed Project and mitigation measures to avoid or substantially lessen such impacts.
Alliance for Nuclear Responsibility	
14-1	The source of decommissioning funding is not an environmental issue analyzed in this EIR. Section 5.0, *Project Alternatives Analysis*, includes evaluations of full offshore conduit removal and full or partial onshore subsurface structure removal.

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Comment #	Location Where Comment is Addressed in EIR
14-2	The SONGS Unit 1 offshore conduits are not an element of the Proposed Project. The CSLC staff plans to conduct a separate risk assessment on liability issues related to the SONGS Unit 1 offshore conduits for Commission action at a future Commission meeting.
14-3	Permanent (indefinite) on-site storage of spent nuclear fuel is not part of the Proposed Project or a feasible alternative; the ISFSI is approved and part of the Proposed Project baseline (see Sections 1.2.2.2, *California Coastal Commission*, and 1.5.1, *Baseline and Future Conditions*). Transport of spent nuclear fuel is not part of the Proposed Project and is anticipated to occur during Future Activities (~2035) and to be evaluated as part of the Applicant's Coastal Commission permit (see Section 1.2.2.2). Under the terms of a Settlement Agreement (see Comment #1-2), the Applicant must develop a Transportation Plan and Strategic Plan to transport spent nuclear fuel. Appendix D provides additional information pertaining to spent nuclear fuel storage and transportation.
Amtrak Environment & Sustainability	
15-1	Section 4.13, *Transportation and Traffic*, evaluates potential for impacts to rail operations under Impact TR-3.
Orange County Coastkeeper	
16-1	Section 5.4.2, *Full Removal of Offshore Conduits*, evaluates an alternative to the Proposed Project that includes full removal of the SONGS Units 2 and 3 offshore conduits, all 126 diffuser ports, fish return conduit (alongside the Unit 2 intake conduit), and connecting culverts seaward of the seawall.
Public Watchdogs	
17-1	The commenter's recommendation that the California State Lands Commission select the No Project Alternative in the EIR (see Section 5.4.1) and reject a lease agreement for the Proposed Project will be provided to the Commission for consideration in its decision-making process.
17-2	Sections 1.0, *Introduction*, and 2.0, *Project Description*, identify the Proposed Project (2019 through 2028) as the project (as defined in CEQA, § 21065 and State CEQA Guidelines, § 15378) and distinguish the Proposed Project from the Approved Independent Spent Fuel Storage Installation (ISFSI) Expansion, Operation, and Maintenance (2015 through 2035). See Sections 1.2.2.2, *California Coastal Commission*; 1.2.2.3, *Settlement Agreement*, and 1.5.1, *Baseline and Future Conditions*.
17-3	Section 1.2.1.3, *Federal Preemption*, discusses federal preemption of radiological decontamination and release requirements and spent nuclear fuel and high-level radioactive waste handling, storage, transport, disposal, and monitoring. The Commission's authority is described in Section 1.2.2.1, *California State Lands Commission*. The commenter's recommendation that the Commission select the No Project Alternative will be provided to the Commission for consideration in its decision-making process.
17-4	See Sections 1.2.1.3, *Federal Preemption*, 1.2.2.2, *California Coastal Commission*, 1.2.2.3, *Settlement Agreement*, and 1.5.1, *Baseline and Future Conditions*.
17-5	

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Comment #	Location Where Comment is Addressed in EIR
17-6	Section 4.1, *Hazardous and Radiological Materials*, discusses radiological hazards, including potential effects on workers. Section 4.7, *Geology, Soils, and Coastal Processes*, discusses geology and coastal processes. See also Sections 2.2.3.1, *Emergency Planning*, and 4.14, *Utilities and Public Service Systems*, which discuss emergency response to potential hazards.
17-7	Section 4.1, *Hazardous and Radiological Materials*, discusses radiological hazards. Sections 2.2.3.1, *Emergency Planning*, and 4.14, *Utilities and Public Service Systems*, discuss emergency response. See also Section 1.2.1.3, *Federal Preemption*.
17-8	Sections 4.4, *Biological Resources*, and 4.9, *Hydrology and Water Quality*, evaluate impacts of the Proposed Project on marine resources.
17-9	Cumulative projects are listed in Section 3.0, *Cumulative Projects*, and cumulative impacts are evaluated for each environmental topic in Section 4.0, *Environmental Impact Analysis*, of the EIR.
17-10	The comments will be provided to the Commission for consideration in its decision-making process.
SanOnofeSafety.org	
18-1	Permanent (indefinite) on-site storage of spent nuclear fuel is not part of the Proposed Project or a feasible alternative; the ISFSI is approved and part of the Proposed Project baseline (see Sections 1.2.2.2, *California Coastal Commission*, and 1.5.1, *Baseline and Future Conditions*). Transport of spent nuclear fuel is also not part of the Proposed Project and is anticipated to occur during Future Activities (~2035) and to be evaluated as part of the Applicant's Coastal Commission permit (see Section 1.2.2.2). Under the terms of a Settlement Agreement (see Comment #1-2), the Applicant must develop a Transportation Plan and Strategic Plan to transport spent nuclear fuel. Appendix D provides additional information pertaining to spent nuclear fuel storage and transportation. Please also see Sections 1.2.1.3, *Federal Preemption*, 1.5, *Purpose and Scope of the EIR*, 4.1, *Hazardous and Radiological Materials*, 5.3.3 *Containment Buildings as Interim Storage for Spent Nuclear Fuel*, and 5.3.5 *Retention of Spent Fuel Pools* (the latter consider use of the containment buildings as interim storage facilities for spent nuclear fuel and retention of the Spent Fuel Pools). These sections also address the comments in the attachments.
Sierra Club Angeles Chapter	
19-1	The commenter's support for the lease application for the Proposed Project will be provided to the Commission for consideration in its decision-making process. Transfer of spent nuclear fuel from spent fuel pools to dry cask storage and onsite storage in the ISFSI are Proposed Project baseline conditions (see Sections 1.2.2.2, *California Coastal Commission*, and 1.5.1, *Baseline and Future Conditions*). Please also see responses above relating to permanent (indefinite) storage of spent nuclear fuel, federal preemption over its transport offsite, and Settlement Agreement stipulations.
The Nicholas Endowment	
20-1	Appendix D2 presents radiological scoping and characterization data and summarizes findings of a study of the Units 2 and 3 discharge conduits

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Comment #	Location Where Comment is Addressed in EIR
	conducted as part of the EIR analysis and peer-reviewed by CSLC-contracted consultants. Sections 4.9, *Hydrology and Water Quality*, and 4.11, *Utilities and Public Service Systems*, address processing and sampling of all water from radiological buildings before discharge through the SONGS Unit 2 discharge conduit (the Unit 3 conduit will be shut down), which must occur in accordance with the San Diego Regional Water Quality Control Board-issued National Pollutant Discharge Elimination System permit and the SONGS Offsite Dose Calculation Manual. Implementation of clean-up plans under NRC oversight will also require that further sampling of all areas be conducted before the NRC will terminate the SONGS license.
20-2	See above response on the discharge conduits scoping study findings. Section 4.4, *Biological Resources*, describes marine habitat and species along the conduits and appurtenant structures. The EIR evaluates leaving the conduits in place and full or partial removal alternatives. The commenter's suggestions on disposition of the conduits will be provided to the Commission for consideration in its decision-making process.
20-3	The commenter's request for mitigation compensation funds will be provided to the Commission for consideration in its decision-making process.
Jerry and Carol Collamer	
21-1	On-site storage of spent nuclear fuel in dry casks in the ISFSI has been approved by the NRC and Coastal Commission and is a baseline condition for this EIR analysis (see Sections 1.2.1.3, *Federal Preemption*, 1.2.2.2, *California Coastal Commission*, and 1.5.1, *Baseline and Future Conditions*).
Marilyn Fuss	
22-1	Section 8.1, *Climate Change and Sea-Level Rise Considerations*, addresses sea-level rise, which will be discussed further at the time of Commission action on the lease associated with the Proposed Project. Under the terms of a Settlement Agreement (see Comment #1-2), the Applicant must develop a Transportation Plan and Strategic Plan to transport spent nuclear fuel (see Section 1.2.2.3, *Settlement Agreement*). Appendices D1 and D3 also contain background information on transportation of spent nuclear fuel.
Daryl Gale	
23-1	Section 8.1, *Climate Change and Sea-Level Rise Considerations*, addresses sea-level rise, which will be discussed further at the time of Commission action on the lease associated with the Proposed Project. Section 4.7, *Geology, Soils, and Coastal*, addresses earthquake and tsunami hazards. Section 4.1, *Hazardous and Radiological Hazards*, addresses the Proposed Project's potential hazards associated with radiological waste. On-site storage of spent nuclear fuel in dry casks in the ISFSI has been approved by the NRC and Coastal Commission and is a baseline condition for this EIR analysis (see Sections 1.2.1.3, *Federal Preemption*, 1.2.2.2, *California Coastal Commission*, and 1.5.1, *Baseline and Future Conditions*). However, under the terms of a Settlement Agreement (see Comment #1-2), the Applicant must develop a Transportation Plan and Strategic Plan to transport spent nuclear fuel (see Section 1.2.2.3, *Settlement Agreement*).

Table C-2. Index to Public Scoping Comments

Comment #	Location Where Comment is Addressed in EIR
Hallie Glaze	
24-1	The commenter's concern that there is no such thing as safe storage of nuclear waste will be provided to the Commission for consideration in its decision-making process.
W.G. Harris	
25-1	Sections 1.0, *Introduction*, and 2.0, *Project Description*, identify the Proposed Project (2019 through 2028) as the project (as defined in CEQA, § 21065 and State CEQA Guidelines, § 15378) and distinguish the Proposed Project from the Approved Independent Spent Fuel Storage Installation (ISFSI) Expansion, Operation, and Maintenance (2015 through 2035) and Future Activities (estimated from 2035 to anticipated completion in 2051). See also Section 1.5.2, *Uncertainty Regarding Future Decommissioning Plan Activities*. Transport of spent nuclear fuel is not part of the Proposed Project and is anticipated to occur during Future Activities (~2035). Under the terms of a Settlement Agreement (see Comment #1-2), the Applicant must develop a Transportation Plan and Strategic Plan to transport spent nuclear fuel. The EIR includes Appendices D1 and D3, which contain background information on radioactive material storage and transportation.
Dr. Rose O. Hayes	
26-1	The commenter's concern that the U.S. Department of Energy should prioritize siting a permanent nuclear waste storage repository will be provided to the Commission for consideration in its decision-making process. See Section 1.2.1.3, *Federal Preemption.* Appendix D provides background information on spent nuclear waste storage and transport.
Ace Hoffman	
27-1	The commenter's concerns will be provided to the Commission for consideration in its decision-making process.
Ronald D Kennedy	
28-1	Section 4.7, *Geology, Soils, and Coastal Processes*, discusses tsunamis and the seismicity of the Proposed Project area. See also Section 5.3.10, *Alternatives Eliminated from Further Consideration – Alternate Sites for Disposal of Spent Nuclear Fuel and Other High-Level Waste*.
Marni Magda	
29-1	Section 1.2.1.3, *Federal Preemption*, discusses federal preemption, which includes approval of the SONGS Post Shutdown Action Report (PSDAR); however, the commenter's request for the Commission to use its full authority to correct the PSDAR s will be provided to the Commission for consideration in its decision-making process.
29-2	Sections 1.0, *Introduction*, and 2.0, *Project Description*, identify the order of proposed phases of the SONGS Decommissioning Plan, identify the Proposed Project (2019 through 2028) as the project (as defined in CEQA, § 21065 and State CEQA Guidelines, § 15378), and distinguish the Proposed Project from the Approved Independent Spent Fuel Storage Installation (ISFSI) Expansion, Operation, and Maintenance (2015 through 2035) and Future Activities (estimated from 2035 to anticipated completion in 2051).

Table C-2. Index to Public Scoping Comments

Comment #	Location Where Comment is Addressed in EIR
	The seawall (which acts as a security barrier), public beach access walkway, and riprap, which are structurally inter-related, are proposed to remain in place during the Proposed Project. (See also Table 2-3 in Section 2.0, *Project Description*.) Removal or retention of these structures will be analyzed as part of future activities (see Section 2.4, *Future Activities (~2035)*, and Section 4.7.7.1, *Future Activities – Riprap.*
29-3	Section 1.2.1.3, *Federal Preemption*, discusses federal preemption of radiological decontamination and release requirements and spent nuclear fuel and high-level radioactive waste handling, storage, transport, disposal, and monitoring. Sections 1.2.2.2, *California Coastal Commission,* 1.2.2.3, *Settlement Agreement*, and 1.5.1, *Baseline and Future Conditions*, identify the ISFSI and its expansion, which include dry cask storage, as approved projects and part of Proposed Project baseline conditions. Information on the role of the Marine Corps Base Camp Pendleton Fire Department is incorporated into the EIR in Section 4.1, *Hazardous and Radiological Materials*, and Section 4.14, *Utilities and Public Service Systems*.
29-4	See comments above regarding federal preemption and baseline conditions related to spent nuclear fuel handling, storage, transport, disposal, and monitoring, and the siting and expansion of the ISFSI. Section 4.1, *Hazardous and Radiological Materials*, discusses radiological hazards associated with the Proposed Project. Section 4.7, *Geology, Soils, and Coastal Processes*, discusses the seismicity of the Proposed Project area.
29-5	Section 2.0, *Project Description*, describes the Proposed Project and provides information on Unit 1 components addressed in the EIR. The SONGS Unit 1 offshore conduits are not an element of the Proposed Project. The CSLC staff plans to conduct a separate risk assessment on liability issues related to the SONGS Unit 1 offshore conduits for Commission action at a future Commission meeting.
29-6	Section 4.4, *Biological Resources*, includes information on the existing marine environmental setting. Appendix D2 provides radiological scoping and characterization data for the Units 2 and 3 discharge conduits, and Appendix F2 includes representative underwater photos taken during the diffuser port characterization survey of the SONGS offshore discharge conduits. Wheeler North Reef is not part of the Proposed Project. A potential project at this reef is identified as a cumulative project in Section 3.0, *Cumulative Projects*, and cumulative impacts are evaluated for each environmental topic in Section 4.0, *Environmental Impact Analysis*.
29-7	Appendix D2 provides radiological scoping and characterization data for the Units 2 and 3 discharge conduits, and Appendix F2 includes representative underwater photos taken during the diffuser port characterization survey of the SONGS offshore discharge conduits. Section 2.0, *Project Description*, describes the Proposed Project and provides information on Unit 1 components addressed in the EIR. The SONGS Unit 1 offshore conduits are not an element of the Proposed Project. The CSLC staff plans to conduct a separate risk assessment on liability issues related to the SONGS Unit 1 offshore conduits for Commission action at a future Commission meeting.

Table C-2. Index to Public Scoping Comments

Comment #	Location Where Comment is Addressed in EIR
29-8	Section 5.0, *Project Alternatives Analysis*, includes evaluations of full offshore conduit removal and full or partial onshore subsurface structure removal. See also responses above.
29-9	Appendix D2 presents radiological scoping and characterization data and summarizes findings of a study of the Units 2 and 3 discharge conduits conducted as part of the EIR analysis and peer-reviewed by CSLC-contracted consultants. Sections 4.9, *Hydrology and Water Quality*, and 4.11, *Utilities and Public Service Systems*, address processing and sampling of all water from radiological buildings before discharge through the SONGS Unit 2 discharge conduit (the Unit 3 conduit will be shut down), which must occur in accordance with the San Diego Regional Water Quality Control Board-issued National Pollutant Discharge Elimination System permit and the SONGS Offsite Dose Calculation Manual.
29-10	See responses above regarding underwater photographs of the Units 2 and 3 conduits and Wheeler North Reef.
29-11	Section 2.0, *Project Description*, describes the Proposed Project and overall decommissioning approach. Section 4.12, *Recreation and Public Access*, evaluates potential significant impacts related to public access. The seawall (which acts as a security barrier), public beach access walkway, and riprap, which are structurally inter-related, are proposed to remain in place during the Proposed Project. (See also Table 2-3 in Section 2.0, *Project Description*.) Removal or retention of these structures will be analyzed as part of future activities (see Section 2.4, *Future Activities (~2035)*, and Section 4.7.7.1, *Future Activities – Riprap.*
29-12	The commenter's concern about the need to prioritize siting of a permanent nuclear waste storage repository will be provided to the Commission for consideration in its decision-making process. Appendix D provides additional information on storage and transport of spent nuclear fuel.
Barbara Metzger	
30-1	On-site storage of spent nuclear fuel in dry casks in the ISFSI has been approved by the NRC and Coastal Commission and is a baseline condition for this EIR analysis (see Sections 1.2.1.3, *Federal Preemption*, 1.2.2.2, *California Coastal Commission*, and 1.5.1, *Baseline and Future Conditions*). However, under the terms of a Settlement Agreement (see Comment #1-2), the Applicant must develop a Transportation Plan and Strategic Plan to transport spent nuclear fuel (see Section 1.2.2.3, *Settlement Agreement*).
Rita Pescador	
31-1	The commenter's concerns will be provided to the Commission for consideration in its decision-making process.
Peter Stoup, Post Ignorance Project	
32-1	Section 2.4, *Future Activities (~2035)*, discloses that aspects of Future Activities, including final end-state conditions at SONGS, are unknown and will be subject to future agency approvals. Where applicable, information is disclosed based on the best available information to date or reasonable assumptions as to anticipated activities.

Table C-2. Index to Public Scoping Comments

Comment #	Location Where Comment is Addressed in EIR
Rick Wilson, Surfrider Foundation	
32-2	The EIR describes the four 18-foot diameter concrete conduits as conduits.
32-3	The project (as defined in CEQA, § 21065 and State CEQA Guidelines, § 15378) analyzed in this EIR is the Proposed Project (2019 through 2028) as discussed in Sections 1.0, *Introduction*, and 2.0, *Project Description.* Baseline conditions are defined in State CEQA Guidelines section 15125, subdivision (a) as the existing (emphasis added) physical environmental setting by which a lead agency determines whether an impact is significant (see Section 1.5.1, *Baseline and Future Conditions*).
32-4	The seawall (which acts as a security barrier), public beach access walkway, and riprap, which are structurally inter-related, are proposed to remain in place during the Proposed Project. (See also Table 2-3 in Section 2.0, *Project Description*.) Removal or retention of these structures will be analyzed as part of future activities (see Section 2.4, *Future Activities (~2035)* and Section 4.7.7.1, *Future Activities – Riprap).*
32-5	The commenter's concern about the need to prioritize siting of a permanent nuclear waste storage repository will be provided to the Commission for consideration in its decision-making process. Appendix D provides additional information on storage and transport of spent nuclear fuel.
Ray Lutz, Citizens' Oversight	
32-6	Sections 1.2.2.2, *California Coastal Commission,* 1.2.2.3, *Settlement Agreement*, and 1.5.1, *Baseline and Future Conditions*, identify the ISFSI and its expansion as approved projects and part of Proposed Project baseline conditions. See also Section 1.5, *Purpose and Scope of EIR*, and Section 5.3.10, *Alternatives Eliminated from Further Consideration – Alternate Sites for Disposal of Spent Nuclear Fuel and Other High-Level Waste*.
32-7	As noted above, the ISFSI and its expansion are approved projects and part of Proposed Project baseline conditions. The State Lands Commission is not an umbrella oversight organization. Please see Sections 1.2.2.1, *California State Lands Commission*, 1.2.2.2, *California Coastal Commission,* and 1.5, *Purpose and Scope of EIR*.
Nina Babiarz, Women's Transportation Seminar	
32-8	Section 2.0, *Project Description*, describes the types of contamination associated with the Proposed Project site/facility. Where applicable, the EIR uses the term radioactive contamination. Section 4.1, *Hazardous and Radiological Materials*, addresses potential impacts associated with this environmental issue.
32-9	Section 4.1, *Hazardous and Radiological Materials*, discusses radiological hazards, including emergency response associated with the Proposed Project. Section 4.14, *Utilities and Public Service System,* also identifies emergency response providers. For example, information on the role of the Marine Corps Base Camp Pendleton Fire Department is incorporated into these sections. See also Section 2.2.3.1, *Emergency Planning*.

Table C-2. Index to Public Scoping Comments

Comment #	Location Where Comment is Addressed in EIR
Charles Langley, Public Watchdogs	
32-10	Federal preemption is discussed in Section 1.2.1.3.
32-11	Sections 1.2.2.2, *California Coastal Commission,* 1.2.2.3, *Settlement Agreement*, and 1.5.1, *Baseline and Future Conditions*, identify the ISFSI and its expansion as approved projects and part of Proposed Project baseline conditions.
32-12	See responses above. The purpose and scope of the EIR are addressed in Section 1.5, *Purpose and Scope of EIR*.
32-13	Sections 4.9, *Hydrology and Water Quality*, and 4.11, *Utilities and Public Service Systems*, address processing and sampling of all water from radiological buildings before discharge through the SONGS Unit 2 discharge conduit (the Unit 3 conduit will be shut down), which must occur in accordance with the San Diego Regional Water Quality Control Board-issued National Pollutant Discharge Elimination System permit and the SONGS Offsite Dose Calculation Manual.
Ace Hoffman	
32-14	Permanent (indefinite) on-site storage of spent nuclear fuel is not part of the Proposed Project or a feasible alternative; the ISFSI is approved and part of the Proposed Project baseline (see Sections 1.2.2.2, *California Coastal Commission*, and 1.5.1, *Baseline and Future Conditions*). Transport of spent nuclear fuel is not part of the Proposed Project and is anticipated to occur during Future Activities (~2035) and to be evaluated as part of the Applicant's Coastal Commission permit (see Section 1.2.2.2). Under the terms of a Settlement Agreement (see Comment #1-2), the Applicant must develop a Transportation Plan and Strategic Plan to transport spent nuclear fuel. Appendix D provides additional information pertaining to spent nuclear fuel storage and transportation.
32-15	As noted above, spent nuclear fuel storage in the ISFSI is approved and part of the Proposed Project baseline (see Sections 1.2.2.2, *California Coastal Commission*, and 1.5.1, *Baseline and Future Conditions*). Section 1.2.1.3, *Federal Preemption*, discusses federal preemption of radiological decontamination and release requirements and spent nuclear fuel and high-level radioactive waste handling, storage, transport, disposal, and monitoring. See also Section 5.3.4, A*lternatives Eliminated from Further Consideration - Laser Reduction of the Isotopes in Spent Nuclear Fuel*.
32-16	See responses above and Section 5.3.10, *Alternatives Eliminated from Further Consideration – Alternate Sites for Disposal of Spent Nuclear Fuel and Other High-Level Waste*. Appendix D3 provides additional information pertaining to spent nuclear fuel storage and transportation.
Greg Alexander	
32-17	Comments noted regarding the ISFSI on a cliff and fault lines next to highways and railways. As noted above, spent nuclear fuel storage in the ISFSI is approved and part of the Proposed Project baseline (see Sections 1.2.2.2, *California Coastal Commission*, and 1.5.1, *Baseline and Future Conditions*). Please also see Section 1.5, *Purpose and Scope of EIR*.

Table C-2. Index to Public Scoping Comments

Comment #	Location Where Comment is Addressed in EIR
Daniel Beeman	
32-18	Section 2.0, *Project Description*, describes the Proposed Project, including removal of above-grade structures. Section 5.0, *Project Alternatives Analysis*, presents alternatives to Proposed Project activities or their locations that would feasibly attain most of the basic project objectives but would avoid or substantially lessen any significant effects of the Proposed Project, and evaluates the comparative merits of the alternatives.
32-19	The seawall (which acts as a security barrier), public beach access walkway, and riprap, which are structurally inter-related, are proposed to remain in place during the Proposed Project. (See also Table 2-3 in Section 2.0, *Project Description*.) Removal or retention of these structures will be analyzed as part of future activities (see Section 2.4, *Future Activities (~2035)* and Section 4.7.7.1, *Future Activities – Riprap).*
Daniel Beeman (comment card)	
32-20	The commenter's concerns will be provided to the Commission for consideration in its decision-making process.
Abel Alcaraz (comment card)	
32-21	Employment opportunities are outside the scope of this EIR.
Donna Gilmore	
33-1	See Table 2-3 in Section 2.0, *Project Description*, for seawall information.
33-2	Sections 1.2.2.2, *California Coastal Commission,* 1.2.2.3, *Settlement Agreement*, and 1.5.1, *Baseline and Future Conditions*, identify the ISFSI and its expansion as approved projects and part of Proposed Project baseline conditions.
33-3	Section 1.2.1.3, *Federal Preemption*, identifies that the U.S. Department of Transportation (DOT) and NRC are responsible for regulating the transport of radioactive materials. The DOT regulates shippers of radioactive materials, including vehicle safety, routing (including highway routing restrictions for certain waste shipments), documentation, emergency response, and training, while NRC regulations contain performance requirements for certain types of transportation packages of radioactive material, and the design, fabrication, use, and maintenance of shipping containers for high-level radioactive waste is under the NRC's jurisdiction. (See 49 Code of Federal Regulations Parts 171-177 and 10 CFR Part 71.) Transport of spent nuclear fuel is not part of the Proposed Project and is anticipated to occur during Future Activities (~2035). Under the terms of a Settlement Agreement (see Comment #1-2), the Applicant must develop a Transportation Plan and Strategic Plan to transport spent nuclear fuel. The EIR includes two appendices (D1 and D3) that contain background information on transportation of radioactive materials.
Marni Magda, Sierra Club Angeles Task Force on San Onofre	
33-4	Appendix D2 presents radiological scoping and characterization data and summarizes findings of a study of the Units 2 and 3 discharge conduits conducted as part of the EIR analysis and peer-reviewed by CSLC-

Table C-2. Index to Public Scoping Comments

Comment #	Location Where Comment is Addressed in EIR
	contracted consultants. Section 4.1, *Hazardous and Radiological Materials*, discusses radiological hazards.
33-5	The SONGS Unit 1 offshore conduits are not an element of the Proposed Project. The CSLC staff plans to conduct a separate risk assessment on liability issues related to the SONGS Unit 1 offshore conduits.
33-6	As noted above, information on the radiological condition of the conduits is discussed in Appendix D2 and is considered in Section 4.1, *Hazardous and Radiological Materials*.
Geoff Harris	
33-7	Sections 1.2.2.2, *California Coastal Commission,* 1.2.2.3, *Settlement Agreement*, and 1.5.1, *Baseline and Future Conditions*, identify the ISFSI and its expansion as approved projects and part of Proposed Project baseline conditions.
33-8	Sections 1.0, *Introduction*, and 2.0, *Project Description*, identify the order of proposed phases of the SONGS Decommissioning Plan. Section 5.3.3, *Alternatives Eliminated from Further Consideration – Containment Buildings as Interim Storage for Spent Nuclear Fuel,* evaluates using containment buildings for interim spent nuclear fuel storage as a potential alternative.
33-9	Transport of spent nuclear fuel is not part of the Proposed Project and is anticipated to occur during Future Activities (~2035). Under the terms of a Settlement Agreement, the Applicant must develop a Transportation Plan and Strategic Plan to transport spent nuclear fuel. The EIR includes two appendices (D1 and D3) that contain background information on transportation of radioactive materials.
Cybil Street	
33-10	The concern about retaining the offshore conduits will be provided to the Commission for consideration in its decision-making process. Information on the radiological condition of the conduits is discussed in Appendix D2 and is considered in Section 4.1, *Hazardous and Radiological Materials*.
W. Geoff Harris (comment card)	
33-8	See response to 33-8 above.
Barbara Metzger (comment card)	
33-11	On-site storage of spent nuclear fuel in dry casks in the ISFSI has been approved by the NRC and Coastal Commission and is a baseline condition for this EIR analysis (see Sections 1.2.1.3, *Federal Preemption*, 1.2.2.2, *California Coastal Commission*, and 1.5.1, *Baseline and Future Conditions*). However, under the terms of a Settlement Agreement, the Applicant must develop a Transportation Plan and Strategic Plan to transport spent nuclear fuel (see Section 1.2.2.3, *Settlement Agreement*). See also Section 5.3.9, *Alternatives Eliminated from Further Consideration - Accelerated Removal of Spent Nuclear Fuel from San Onofre Nuclear Generating Station.*
33-12	See Section 2.3.9, *Proposed Project Activities - Security* Modifications.
Verna Rollinger (comment card)	
33-13	See response to 33-11 above.

Comment Set 1

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August 12, 2016

File Ref: SCH No. 2016071025
CSLC EIR No. 784; W30209

Cynthia Herzog
Senior Environmental Specialist
California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

Subject: SONGS Decommissioning Notice of Preparation Comments

Dear Ms. Herzog:

We have received the above-referenced Notice of Preparation (NOP) for the SONGS Units 2 & 3 Post-Shutdown Decommissioning Project (Project). On behalf of Southern California Edison (SCE), San Diego Gas & Electric (SDG&E), and the Cities of Anaheim and Riverside (collectively, the Co-Participants), we respectfully submit the following comments for your consideration. Included below are our substantive comments, followed by a table addressing technical corrections and clarifications. We appreciate this opportunity to comment on the NOP.

Project Scope for CEQA Review and Analysis

The proposed Project is defined in several places in the NOP as including all four decommissioning phases. We recognize that the California State Lands Commission (CSLC), as the California Environmental Quality Act (CEQA) lead agency, is responsible for disclosing to the public the activities expected to occur in the four SONGS decommissioning phases. However, we would like to clarify that because future activities (those included in Phases 3 and 4, and some activities in Phase 2) are speculative and undefined at this time, the Co-Participants' proposed Project presented for detailed analysis in the current CEQA review only includes the "known" portions of SONGS decommissioning: (a) the Phase 1 decontamination and dismantlement activities, which include a well-defined scope driven by compliance with Nuclear Regulatory Commission (NRC) regulations and removal of all above-ground structures, and (b)

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the Phase 2 conduit dispositioning work, which is the subject of the CSLC decision regarding the offshore conduits lease.

It would be premature to evaluate the environmental impacts of any onshore Phase 2 activities. Any remaining Phase 2 activities beyond those included in the proposed Project would consist of work that is required to satisfy the U.S. Department of the Navy (DoN), the onshore landowner. As part of its decision regarding the site easement, the DoN's National Environmental Policy Act (NEPA) review will define and evaluate those remaining Phase 2 activities, including any additional below-grade structure removal beyond that required by the NRC.

Phase 3 and Phase 4 activities also represent future activities that are undefined at this time. Phase 3 is primarily associated with the operation and maintenance of the Independent Spent Fuel Storage Installation (ISFSI) until the spent fuel is moved offsite, at which time the ISFSI will be dismantled. Additional Phase 3 activities may result from the California Coastal Commission's (CCC) review of the ISFSI location in 2035. In 2015, the CCC made its decision regarding the ISFSI location based on projected data regarding coastal hazards (e.g., sea level rise). As required under the 2015 CCC permit, the 2035 review will revisit the decision based on actual data and, if deemed necessary, the CCC may require relocation of the ISFSI. Therefore, by definition, Phase 3 cannot be reviewed at this time because it is unknown whether the ISFSI will be relocated.

1-2 (cont)

Phase 4, which is driven in part by the Phase 3 outcome, is also speculative at this time. Phase 4 includes removal of the ISFSI and, therefore, the required activities will depend on the location of the ISFSI at that point in time. Further, the DoN will evaluate and make the ultimate decision regarding the end state for the access roads, gunite, seawall, public beach access walkway, and portions of the riprap. The disposition of these project components will occur in Phase 4, after spent fuel is removed from the site. The DoN's decision regarding the Phase 4 activities will also be evaluated as part of the NEPA process addressing remaining Phase 2 activities.

CEQA does not require analysis of speculative activities. CEQA Guidelines, § 15145 (if "a lead agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact"); *Citizens for a Sustainable Treasure Island v. City and County of San* Francisco, 227 Cal.App.4th 1036, 1060-61 (2014); *Alliance of Small Emitters/Metals Industry v. South Coast Air Quality Management Dist.*, 60 Cal.App.4th 55,66-67 (1997) ("if the nature of future development is nonspecific and uncertain, an EIR need not engage in 'sheer speculation' as to future environmental consequences."). As discussed above, the Phase 2 work to be determined by the DoN, and the Phase 3 and 4 aspects of SONGS decommissioning are speculative. Accordingly, in our view, while it is appropriate for the EIR to describe the entirety of SONGS decommissioning, the unknown future activities should not be

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included in the proposed Project that is subject to detailed environmental analysis as part of the current CSLC CEQA review.

With respect to the ISFSI, we also wish to clarify that the current construction of the ISFSI expansion, approved by the CCC in October 2015 (CDP No. 9-15-0228), is not part of the decommissioning project. The existing Areva ISFSI did not have sufficient space to accommodate remaining Unit 2 and Unit 3 spent fuel, which drove the need for the ISFSI expansion. The expansion would have been required whether the plant was operating or retired. Accordingly, the ISFSI expansion underwent CEQA review by the CCC as a project separate and apart from SONGS decommissioning. The CCC review included a thorough evaluation of environmental impacts and a review of location alternatives. Therefore, it is not appropriate for CSLC's CEQA review to revisit the decision regarding spent fuel storage at SONGS. However, the ultimate removal of the ISFSI is part of SONGS decommissioning and is included in Phase 4. 1-3

Alternatives

The NOP (Attachment, Page 17) includes examples of possible project alternatives and included in that list are alternatives for aspects of decommissioning that will undergo detailed review and ultimate selection by the DoN and/or will not occur until Phase 4. Under CEQA, however, the EIR should only study alternatives to *the project* evaluated in the EIR. Specifically, the EIR should provide detailed environmental analysis for a range of reasonable alternatives "to *the project*, or to the location of *the project*, which would feasibly attain most of the basic project objectives." CEQA Guidelines, § 15126.6(a) (emphasis added). Further, an EIR need not consider "an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative." CEQA Guidelines, § 15126.6(f)(3); see also *Al Larson Boat Shop, Inc. v. Bd. Of Harbor Commissioners*, 18 Cal.App.4th 729, 745 (1993) (holding what is considered a reasonably feasible alternative "must be decided in light of the nature of the project and as of the time the [EIR] is adopted"). 1-4

Applying these CEQA principles to the proposed Project, the EIR should not evaluate alternatives pertaining to future decommissioning activities. For the reasons discussed above, onshore Phase 2 activities, as well as Phases 3 and 4, should not be included in the proposed Project. Therefore, the EIR need not analyze alternatives to those future and still unknown portions of SONGS decommissioning.

Finally, although the project to be analyzed in CSLC's EIR includes the Phase 1 decontamination and dismantlement activities, there is no legally feasible alternative to the onshore work that is necessary to satisfy NRC radiological decontamination and release requirements. Accordingly, we submit that the potential alternatives that should undergo detailed analysis in the EIR include only those related to the offshore conduits, buoys, and the portions of 1-5

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the riprap within CSLC jurisdiction – not alternatives to onshore work necessary to meet NRC requirements.

Hazardous/Radiological Materials

The NOP (Attachment, Page 16, Section 3.1.1) recognizes the State is preempted from evaluating or conditioning the project with respect to nuclear safety or radiological issues. At the same time, the NOP (Attachment, Page 20, Section 3.2.6) indicates the EIR will include a discussion of Hazardous/Radiological Materials as one of the currently identified potential environmental impacts. We would like to confirm that the EIR will not impose mitigation measures with respect to radiological issues, including clean-up levels, radioactive hazards, spent fuel handling and storage, or any other matter subject to NRC jurisdiction.

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Thank you for considering our comments. Please let us know if you have any questions.

Sincerely,

Anne McAulay
CEQA Project Manager, SONGS Decommissioning
Southern California Edison Company

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Comments on CSLC Notice of Preparation

No.	NOP Language	Comment
1	*(NOP, Page 2) Project Title* San Onofre Nuclear Generating Station Units 2 & 3 Post-Shutdown Decommissioning Project	The Phase 1 decontamination and dismantlement activities may also include SONGS Unit 1 facilities in addition to Units 2 and 3. Remnants of SONGS 1 structures, systems, and components remain below the existing North Industrial Area (NIA). These remnants, with the exception of those located below the ISFSI, will be addressed as part of the Proposed Project in Phase 1 as required to meet NRC regulations. Therefore, we suggest referring to the project as the San Onofre Nuclear Generating Station Post-Shutdown Decommissioning Project.
2	*(NOP, Page 2) Project Summary* SCE and its Co-Participants have applied to the CSLC to implement the San Onofre Nuclear Generating Station Units 2 & 3 Post-Shutdown Decommissioning Project (Project).	We suggest it is more accurate to state that SCE, SDG&E, and the City of Riverside (the Applicants) have applied to the CSLC for a modification of lease PRC 6785.1. The modifications applied for included a) an extension of the lease term to cover the decommissioning period and, b) definition of the final disposition for the lease facilities.
3	*(NOP Attachment, Page 1) Project Location and Background* In 2015, SCE, SDG&E, and the City of Riverside (Applicants), submitted an application to the CSLC to decommission the Units 2 and 3 Lease Facilities.	See comment #2.
4	*(NOP Attachment, Page 6) Lease and Easement Information* On November 12, 2015, the Applicants submitted to the CSLC an application requesting modifications of its existing CSLC Lease No. PRC 6785.1 to allow for decommissioning of SONGS Units 2 and 3.	As stated above in comment #2, the modifications applied for included a) an extension of the lease term to cover the decommissioning period and, b) definition of the final disposition for the lease facilities.
5	*(NOP Attachment, Page 1) Project Location and Background* The onshore SONGS site lies entirely within the boundaries of the Marine Corps Base Camp Pendleton (Camp Pendleton) under a grant of	SDG&E is party to the grant of easement from the DoN for the SONGS onshore site and is a named NRC licensee, along with SCE. Therefore, it would be more accurate to state that SCE and SDG&E are SONGS easement grantees and NRC licensees.

1-7

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SOUTHERN CALIFORNIA EDISON
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No.	NOP Language	Comment
	easement between the U.S. Department of the Navy (DoN) and Southern California Edison (SCE), which owns SONGS subject to a license from the U.S. Nuclear Regulatory Commission (NRC).	
6	*(NOP Attachment, Page 7) Lease and Easement Information* The easement between SCE and the DoN for the SONGS onshore facilities expires in 2024.	See comment #5.
7	*(NOP Attachment, Page 1) Project Location and Background* …submitted a Certification of Permanent Cessation of Power Operations to the NRC seeking termination of the NRC license (in accordance with 10 Code of Federal Regulations [CFR] 50.83).	SCE, on behalf of the Co-Participants, submitted a Certification of Permanent Cessation of Power Operations to the NRC (in accordance with 10 CFR 50.82(a)(1)(i)) indicating our intent to permanently shut down SONGS (rather than license termination).
8	*(NOP Attachment, Page 5) Onshore Site* In October 2015, the CCC approved CDP No. 9-15-0228 to allow the Applicants to construct and operate a partially below-grade Independent Spent Fuel Storage Installation (ISFSI) within the NIA to store spent nuclear fuel from SONGS Units 1, 2 and 3 (an above-grade ISFSI approved in 2001 does not have capacity to hold remaining spent fuel).	The expanded ISFSI will house spent fuel from Units 2 and 3 but not from SONGS Unit 1.
9	*(NOP Attachment, Page 6)* The Applicants' requested end state is subject to further discussions between the CSLC, DoN, U.S. Army Corps of Engineers (USACE), and CCC.	This statement was included in the application with reference to the end condition of the public beach access walkway, because, at that time, it was unclear whether the walkway was located within the DoN Easement boundary or within the CSLC Lease PRC 6785.1 area. A formal boundary survey has since been conducted confirming the location of the walkway within the DoN Easement based on the current location of the mean high water line.

1-7 (cont.)

2244 Walnut Grove Ave. Rosemead, CA 91770

Comment Set 2

STATE OF CALIFORNIA—NATURAL RESOURCES AGENCY EDMUND G. BROWN, JR., GOVERNOR

CALIFORNIA COASTAL COMMISSION

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August 11, 2016

Cynthia Herzog
Senior Environmental Scientist
California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825

RE: SONGS Decommissioning EIR Scoping Comments

Dear Ms. Herzog,

Coastal Commission staff has received the July 12, 2016 Notice of Preparation ("NOP") for the Draft Environmental Impact Report ("EIR") for the San Onofre Nuclear Generating Station ("SONGS") Units 2 & 3 Post-Shutdown Decommissioning Project, proposed by Southern California Edison ("SCE") and its co-participants. In the NOP, State Lands Commission ("CSLC") staff requested agency input "as to the scope and content of the environmental analysis, including the significant environmental issues, range of alternatives, and mitigation measures that should be included in the EIR." Commission staff appreciates the opportunity to provide preliminary comments on the proposed Decommissioning Project and looks forward to working with CSLC staff during the environmental review process.

Coastal Commission Jurisdiction

The Coastal Commission retains the authority under the Coastal Act to require coastal development permits ("CDPs") for private, non-federal activities taking place on federal land, including development occurring at SONGS. The Commission previously authorized the decommissioning of SONGS Unit 1 under CDP Nos. E-00-001 (onshore structures) and E-13-004 (offshore conduits), and more recently has authorized projects ancillary to the decommissioning of Units 2 & 3, including the replacement of the large seawater intake pumps formerly used for once-through cooling with smaller dilution pumps (CDP waiver No. 9-15-0417-W), installation of a new spent fuel pool cooling system (CDP No. 9-15-0162), and construction of a new dry-cask storage facility for spent fuel (CDP No. 9-15-0228). A new CDP will be required for the proposed Units 2 & 3 Decommissioning Project. In addition to fulfilling the environmental review requirements of CEQA, the EIR will provide a crucial source of information supporting the Commission's review of the proposed project under the Coastal Act. **2-1**

EIR Scope of Analysis, Alternatives, and Potential Environmental Effects

Commission staff supports the comprehensive scope of analysis and broad range of project component alternatives outlined by CSLC staff in the NOP and attached project description. Commission staff agrees that the Draft EIR should include detailed analyses of the comparative environmental effects of the full removal, partial removal or abandonment in place of Units 2 & **2-2**

3 structures, including onshore, offshore, and below-grade infrastructure, over both the short- and long-term. In particular, potential adverse effects on coastal resources, including coastal access and recreation, shoreline processes, visual and scenic resources, and biological resources, should be evaluated for the various alternatives. Several specific areas of concern are highlighted below.

Coastal Access & Recreation; Shoreline Processes

Commission staff strongly urges that potential impacts to coastal access and recreation be considered in detail as part of the EIR. As discussed in more detail below, project alternatives relating to the removal or retention of the existing public access walkway, shoreline protective structures, below-grade infrastructure and traffic have the potential to adversely affect public shoreline access and recreation at and adjacent to the SONGS site. Consideration of impacts to coastal access and recreation should not be eliminated from consideration in the EIR, as has been proposed in the NOP.

2-2 (cont.)

Public Access Walkway

The provision and maintenance of the existing public access walkway seaward of the SONGS seawall was a condition of approval of the amended CDP (No. 6-81-330-A) authorizing SONGS Units 2 & 3. The Nuclear Regulatory Commission ("NRC") requires that a nuclear power plant be surrounded by a protective "Exclusion Area" to prevent harmful dosages of radiation to the public in the event of an accident at the plant. Within this area, a plant licensee must have the authority to determine all activities, including exclusion or removal of personnel or property from the area. At SONGS, the NRC-approved Exclusion Area includes the entire beach, bluff and shoreline area in front of the SONGS site, severely restricting public access and recreational opportunities in the area. At the time of the approval of CDP 6-81-330-A in 1982, the Commission determined that Special Condition A.6, requiring the provision of the public access walkway, was necessary to allow the public to traverse the Exclusion Area and connect portions of San Onofre State Beach located to the north and south of SONGS, partially mitigating for the loss of access in front of the plant. So long as an NRC-mandated Exclusion Area is in place, CDP 6-81-330-A requires that the public access walkway also remain in place. Premature removal of the public access walkway during the Decommissioning Project – that is, while an Exclusion Area remains in effect -- would impair public access to the shoreline and violate the conditions of the existing CDP.

2-3

SCE has indicated to Commission staff that at some point in the future, the boundaries of the Exclusion Area will be reduced to encompass only the area seaward of the independent spent fuel storage installations (ISFSIs) in the North Industrial Area. If and when these changes to the Exclusion Area are effected, the portion of the walkway seaward of Units 2 & 3 could be removed without violating the conditions of approval of the CDP. Similarly, following the planned decommissioning and removal of the ISFSIs during Phase 4 of the Decommissioning Project, the Exclusion Area would presumably be discontinued, and the walkway structure (and protective rip rap) would no longer be necessary to assure public shoreline access at the site, and could be removed without adversely affecting coastal access.

In summary, the Draft EIR should identify and evaluate the timing of the walkway removal in its discussion of this alternative, and consider the potential impacts to coastal access and recreation that could result from both (a) the premature removal of the walkway, and (b) retention of the walkway structure and the associated riprap beyond the timeframes of site decommissioning (*see* discussion of Shoreline Protective Structures, below).

Shoreline Protective Structures

The shoreline protective system fronting the SONGS site – encompassing the existing seawall, concrete walkway, and riprap revetment, has prevented natural erosional processes from occurring at the site over the past several decades. With the decommissioning and removal of SONGS Units 2 & 3 structures (and later the ISFSIs), these shoreline protective structures would no longer be needed for their original, intended purposes.[1] Moreover, since Coastal Act Section 30253(b) requires that new development not require shoreline protective devices to assure stability and structural integrity, no future development at the SONGS site could be approved by the Commission if it were found to be dependent on the reuse of the existing armoring. Thus, there is no obvious justification for retaining these structures beyond the Decommissioning Project.

2-3 (cont.)

Over the long-term, retention of these structures would continue to prevent natural shoreline erosion and, in conjunction with future sea level rise related to climate change, would be expected to result in the loss of the existing beach – including state lands below the mean high tide line – significantly impacting future public shoreline access and recreation at the site. Additionally, retention of the existing shoreline protective devices would prevent new sand from entering the littoral cell during natural bluff/shore erosion, reducing shoreline sand supply and potentially contributing to sand deficits and beach erosion at nearby, "downstream" sites. For these reasons, Commission staff strongly recommends that the potential adverse effects of the "retain in place" and "partial removal" alternatives for shoreline protective structures be fully evaluated in the Draft EIR.

Below-Grade Infrastructure

Over the long-term, in the absence of shoreline protective devices, natural erosion of the shoreline at the SONGS site could expose below-grade infrastructure that is abandoned in place during the Decommissioning Project. Depending on their size and configuration, these abandoned structures have the potential to function as *de facto* armoring devices, preventing the natural retreat of the shoreline and resulting in the loss of beach area (including public lands) and/or diminishment of shoreline sand supply, as discussed above. Additionally, abandoned below-grade structures that became exposed could present a hazard to the public, both impeding beach/shoreline access and potentially requiring expensive, publically-funded remediation efforts (such as are currently being carried out along the Santa Barbara County coastline to remove derelict oil & gas wells and related structures). With these concerns in mind, Commission staff strongly recommends that the Draft EIR fully evaluate the potential future impacts on public

2-4

[1] Retention of the public access walkway, and any riprap necessary to prevent undercutting of the walkway, would continue to be required where the NRC-mandated Exclusion Area remains in place.

access and safety of the abandonment-in-place and partial removal alternatives for below-grade infrastructure.

2-4 (cont.)

Decommissioning-related Traffic

The proposed Decommissioning Project is a major undertaking which would involve large numbers of construction personnel and vehicles over a period of many years, potentially affecting traffic flow on nearby highways, roads, and coastal access routes. In addition to a general traffic analysis, the Draft EIR should consider the potential for project-related traffic and parking congestion to interfere with coastal access and recreation.

Visual & Scenic Resources

Coastal Act Section 30251 ("Scenic and visual qualities") requires that new development, where feasible, "restore and enhance visual quality in visually degraded areas." The heavily developed, industrialized SONGS site clearly qualifies as a visually degraded area, and overall the decommissioning and removal of Units 2 & 3 facilities is likely to improve views to the ocean and along the shoreline at this location. However, alternatives which retain all or portions of SONGS structures, including buildings, equipment, shoreline protection structures and areas of gunnite slope stabilization, have the potential to result in less restoration and enhancement of visual resources at the site than alternatives proposing full removal. The Draft EIR should evaluate the various project component alternatives for their potential to enhance visual quality at the site, and identify feasible measures by which visual resources could be enhanced.

2-5

Biological Resources

Certain components of the Decommissioning Project, in particular the decommissioning of the offshore conduits and onshore demolition and removal activities, have the potential to adversely affect marine and terrestrial habitats and species and water quality, in particular the decommissioning of the offshore conduits and onshore demolition and removal activities. The various alternatives for disposition of the conduits, including full or partial removal of the conduits themselves, more limited removal of vertical structures, or abandonment in place, could result in several impacts to marine resources, such as direct disturbance or burial of sensitive habitats (e.g., hard substrates, eelgrass and surfgrass beds), turbidity impacts (e.g., to nearby kelp forests), collisions with or noise impacts on marine mammals, or "take" of other listed species. Onshore removal and demolition activities have the potential to generate high levels of noise, adversely affecting sensitive species (e.g., coastal gnatcatcher) in adjacent habitat areas, and to mobilize sediments, debris and chemical pollutants that could degrade coastal water quality. The Draft EIR should evaluate these and other potential impacts on biological resources for the various project component alternatives noted in the NOP. Additionally, the Draft EIR should evaluate the potential long-term effects on marine resources of alternatives that would abandon below-grade infrastructure in place, including the potential for future erosion to result in the discharge of SONGS-related debris and contaminants to the ocean.

2-6

In order to conform to Coastal Act policies governing marine resources and sensitive habitats, significant project-related impacts to biological resources would need to be avoided or mitigated. Commission staff therefore also recommends that any proposed or necessary

mitigation, minimization and avoidance measures be identified and fully evaluated in the Draft EIR.

Thank you for your consideration of these comments. Please contact me at 415-904-5249 or joseph.street@coastal.ca.gov if you have questions or would like additional information.

Sincerely,

Joseph Street
Environmental Scientist
Energy, Ocean Resources & Federal Consistency Unit

Comment Set 3

State of California – Natural Resources Agency
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EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

September 9, 2016

Ms. Cynthia Herzog
California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, California 95825

Subject: San Onofre Nuclear Generating Station Units 2 & 3 Decommissioning Project Notice of Preparation of a Draft Environmental Impact Report (SCH#2016071025)

Dear Ms. Herzog:

The California Department of Fish and Wildlife (Department) has reviewed the California State Lands Commission (CSLC) Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the San Onofre Nuclear Generating Station (SONGS) units 2 & 3 Decommissioning Project (Project). The onshore SONGS site lies entirely within the boundaries of the Marine Corps Base Camp Pendleton (Camp Pendleton) under a grant of easement between the U.S. Department of the Navy (DoN) and Southern California Edison (SCE), which owns SONGS subject to a license from the U.S. Nuclear Regulatory Commission (NRC). The offshore area is located on land leased by the California State Lands Commission (CSLC). At full operation, SONGS had three operating units with unit one now decommissioned. This NOP discusses Unit 2 and 3 decommissioning in four phases.

The Project is proposed to include a four phased plan to complete decommissioning within 40 years. Decontamination and dismantlement of the facility is proposed to occur within phase one, the first 20 years. The Project area is protected by an approximately 2,049 feet long seawall. The former unit one seawall is made of steel sheet pile for a length of approximately 673 feet. The units two and three seawall is comprised of reinforced concrete topped with a security fence for a length of approximately 1,376 feet. Offshore facilities include the cooling system intake and discharge conduits, a fish return system conduit, a public beach access walkway and associated riprap, and environmental monitoring and navigational buoys. The DEIR will evaluate several water intake and return conduit dismantlement alternatives for phase two including: leaving in place (no action), full removal, partial removal, and creation of an artificial reef using conduit material. Partial removal of intake and discharge conduits and removal of buoys will take place at the end of phase two. Additionally, the DEIR will analyze several seawall removal alternatives.

The SONGS Co-Participants must comply with site restoration requirements specified by the underlying landowners (i.e., DoN and CSLC) and other jurisdictional agencies. Decommissioning would include remediating non-radiological hazards to levels that are acceptable to jurisdictional agencies.

Conserving California's Wildlife Since 1870

Department Jurisdiction:

As a trustee for the State's fish and wildlife resources, the Department has jurisdiction over the conservation, protection and management of fish, wildlife, and habitats necessary for biologically sustainable populations of those species (Fish and G. Code §1802). In this capacity, the Department administers the California Endangered Species Act, the Native Plant Protection Act, and other provisions of the California Fish and Game Code that afford protection to the State's fish and wildlife resources. The Department is also responsible for marine biodiversity protection under the Marine Life Protection Act (MLPA) in coastal marine waters of California and is recognized as a "Trustee Agency" under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.; hereafter CEQA; Cal. Code Regs., § 15000 et seq.; hereafter CEQA Guidelines). As a Trustee Agency, the Department is responsible for providing biological expertise to review and comment upon environmental documents and impacts arising from the Project activities (CEQA Guidelines, § 15386; Fish and G. Code, § 1802). To enable the Department to adequately review and comment on the proposed project from the standpoint of the protection of plants, fish, and wildlife, we recommend the following information be included in the DEIR. The Department has the following specific comments and recommendations.

Marine Biological Resources

Marine Biological Significance:
The diverse ecosystems within the open coast intertidal and subtidal areas provide habitats for thousands of species of marine plants, fish, invertebrates, seabirds, reptiles, mammals, and other wildlife. Sensitive marine habitats may include: 1) Coastal strand with macro algae wrack; 2) Intertidal and subtidal soft, cobble and rocky reef bottom with attached algal mats, Giant kelp or understory kelp spp.; 3) Southern sea palm or other native seaweed communities; and 4) Surf grass beds. These areas are important fish and invertebrate habitats required for forage, reproduction and shelter. They are also important for local fisheries, marine biodiversity and a healthy food web. The offshore Project area is mostly a combination of rocky/cobble and sandy shallow and mid-depth sub-tidal habitats, which could support surf grass and kelp communities.

Marine Biological Baseline Information: **3-1**
The Project area has potential habitats for endangered, threatened and sensitive marine species. The DEIR should clearly identify marine species and habitats currently on or adjacent to the Project area with an emphasis on species that are State and federally listed or part of fishery management plans. The Department recommends that the DEIR include a discussion of the development of a comprehensive marine biological resources monitoring program to monitor for impacts during and after construction. The Monitoring program should include a comprehensive baseline component that will be used to analyze as a comparison for impacts during and after construction. Focus should also be placed on locally sensitive or rare species and habitats. Pre-construction baseline marine surveys should be conducted at the appropriate time of year to determine the presence/absence, location, and abundance of sensitive marine plants and animal species which may occur within the Project area. Baseline surveys

should also include vulnerable or sensitive non-listed marine species historically found in the area that are slow moving and long lived such as Pismo clams and the non-listed abalone spp.

Impact Analysis:
The DEIR should contain a complete discussion of the purpose and need for, and description of, the proposed project, including all staging areas and access routes to the construction and staging areas.

As required by CEQA, the DEIR should clearly identify potential impacts to marine species and habitats that may occur within the Project area. There is the potential for endangered, threatened and sensitive species to occur within the Project area according to a search we conducted in the RareFind and California Natural Diversity Database (CNDDB). The potential for species or habitat impacts by the Project should be analyzed, including temporary and permanent impacts based on significance. The DEIR should identify measures to avoid and reduce all potential impacts predicated on comprehensive baseline biological surveys for federal, and state listed species, species on the special concern list, all birds present and all other sensitive or vulnerable species. Measures and alternatives that would avoid impacts are preferred. The DEIR should include a comprehensive discussion on minimization measures that will address potential unavoidable impacts to the maximum extent feasible. Unavoidable sensitive habitat losses seen during or after construction will require appropriate mitigation on or off-site if necessary. **3-2**

The NOP identifies that one alternative for the offshore conduit material is to use it for the construction of an artificial reef. The Department does not support the use of the conduit material for the construction of an artificial reef and recommends an alternative with full removal of all conduit material.

The NOP also identifies that one alternative for addressing the onshore rock rip rap is to either leave it in place or partially remove the rock. The DEIR should include a comprehensive discussion regarding the long-term impacts that may occur as a result of leaving the rip rap in place. The discussion should include a comparison analysis of the value of existing intertidal rip rap verses natural intertidal and sandy beach habitats. The Department prefers that marine habitats be fully restored to their natural state. **3-3**

The Department also recognizes the potential for sound impacts associated with underwater construction activities; including but not limited to breaking concrete, removal of steel sheet piles and drilling. The Department is a signatory agency to the Agreement in Principle for Interim Criteria for Injury to Fish from Pile Driving Activities, June 12, 2008. The agreed upon sound pressure levels are 206 dB peak and 187 dB accumulated sound exposure level (SEL). The Department recommends that sound pressure level monitoring be included for proposed in water work. The Department recommends an analysis of potential SELs created by Project activities in the DEIR. **3-4**

Marine Mitigation:
The DEIR should include a comprehensive discussion of conservation measures, Project alternatives, and species protection plans that fully avoid and minimize all marine habitat impacts to the maximum extent feasible. Unavoidable temporal or permanent marine habitat impacts identified during or after construction may require compensation for those impacts. The DEIR should include a comprehensive discussion of potential mitigation measures that may be necessary to fully mitigate any unavoidable significant impacts to habitat and species in the Project area. 3-5

Terrestrial Biological Resources

The Department has responsibility for wetland and riparian habitats. It is the policy of the Department to strongly discourage development in wetlands or conversion of wetlands to uplands. We oppose any development or conversion which would result in a reduction of wetland acreage or wetland habitat values, unless, at a minimum, project mitigation assures there will be "no net loss" of either wetland habitat values or acreage. Development and conversion include but are not limited to conversion to subsurface drains, placement of fill or building of structures within the wetland, and channelization or removal of materials from the streambed. All wetlands and watercourses, whether ephemeral, intermittent, or perennial, should be retained and provided with substantial setbacks which preserve the riparian and aquatic values and maintain their value to on-site and off-site wildlife populations. Mitigation measures to compensate for impacts to mature riparian corridors must be included in the DEIR and must compensate for the loss of function and value of a wildlife corridor.

The project area supports aquatic, riparian, and wetland habitats; therefore, a jurisdictional delineation of the creeks and their associated riparian habitats should be included in the DEIR. The delineation should be conducted pursuant to the U. S. Fish and Wildlife Service wetland definition adopted by the Department.[1] Please note that some wetland and riparian habitats subject to the Department's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers. The Department also has regulatory authority over activities in streams and/or lakes that will divert or obstruct the natural flow, or change the bed, channel, or bank (which may include associated riparian resources) of any river, stream, or lake or use material from a river, stream, or lake. For any such activities, the project applicant (or "entity") must provide written notification to the Department pursuant to section 1600 et seq. of the Fish and Game Code. Based on this notification and other information, the Department determines whether a Lake and Streambed Alteration Agreement (LSA) with the applicant is required prior to conducting the proposed activities. The Department's issuance of a LSA for a project that is subject to CEQA will require CEQA compliance actions by the Department as a Responsible Agency. The Department as a Responsible Agency under CEQA may consider the local jurisdiction's (lead agency) Negative Declaration or Environmental Impact Report for the project. To minimize 3-6

1 Cowardin, Lewis M., et al. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service.

additional requirements by the Department pursuant to section 1600 *et seq.* and/or under CEQA, the document should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the LSA.[2]

Endangered Species Act (CESA):
The Department considers adverse impacts to a species protected by the California Endangered Species Act (CESA), for the purposes of CEQA, to be significant without mitigation. As to CESA, take of any endangered, threatened, or candidate species that results from the project is prohibited, except as authorized by state law (Fish and Game Code, §§ 2080, 2085). Consequently, if the Project, Project construction, or any Project-related activity during the life of the Project will result in take of a species designated as endangered or threatened, or a candidate for listing under CESA, the Department recommends that the project proponent seek appropriate take authorization under CESA prior to implementing the project. Appropriate authorization from the Department may include an incidental take permit (ITP) or a consistency determination in certain circumstances, among other options (Fish and Game Code §§ 2080.1, 2081, subds. (b),(c)). Early consultation is encouraged, as significant modification to a project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, may require that the Department issue a separate CEQA document for the issuance of an ITP unless the project CEQA document addresses all project impacts to CESA-listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of an ITP. For these reasons, biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA ITP.

3-7

The Department maintains a list of rare, threatened, and endangered plants and animals that can be found on the Department's web site: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEAnimals.pdf. The Department recommends that the DEIR include a full impact/benefit analysis of CESA listed species and their habitats that may be in the Project area. Adverse impacts from the Project leading to take of CESA listed species would require take authorization from the Department according to Fish and Game Code §2081.

A fully protected species may not be taken or possessed at any time and must be avoided by all Project impacts. The following Fully Protected species may potentially occur in the Project area: California brown pelican *(Pelecanus occidentalis)* and California least tern *(Sterna antillarum browni)* (FGC §4700(b) and §3511(a)). The Department recommends that the DEIR include a full impact/benefits analysis of California Fully Protected Species that may be in the Project area. More information regarding Fully Protected species can be found on the Department's website: https://www.dfg.ca.gov/wildlife/nongame/t e spp/fully pro.html.

2 A notification package for a LSA may be obtained by accessing the Department's web site at www.wildlife.ca.gov/habcon/1600.

California Species of Special Concern (CSSC):
Species of plants and animals need not be officially listed as Endangered, Rare, or Threatened (E, R, or T) on any State or federal list to be considered E, R, or T under CEQA. If a species can be shown to meet the criteria for E, R, or T, as specified in the CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, §15380), it should be fully considered in the environmental analysis for the Project. This should include CSSC's that are known to the Project area vicinity or found in the Department's CNDDB or the RareFind databases (http://www.dfg.ca.gov/biogeodata/bios/). This may include, but not be limited to, species such as western snowy plover *(Charadrius alexandrinus nivosus)* and burrowing owl *(Athene cunicularia).* As such, impacts to these species and their habitats must be identified, avoided and unavoidable impacts mitigated to a level of less than significant. These species may forage, breed and nest in aquatic waters and riparian areas, and species associated with uplands may utilize sites within or adjacent to the Project area. The Department recommends that the DEIR include a discussion of the potential impacts to CSSC's that may occur with the various site alternatives. Additionally, the following specific terrestrial species should be handled as follows:

a) Since the Project vicinity is likely occupied by burrowing owls, the Department recommends that the DEIR include a comprehensive discussion of the potential impacts to burrowing owls that may occur under the various site alternatives. The Department recommends following the pre-construction survey methodology developed by the California Burrowing Owl Consortium (CBOC, 1993: (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83842) if the site contains burrows suitable for use by owls. If nesting burrowing owls are found on or adjacent to the project site, the Department Staff Report on burrowing owl mitigation (DFG, 2012: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843) should be followed.

b) In addition to those species listed in section 3.2.3 of the NOP, the project site may support species such as Coulter's saltbush *(Atriplex coutleri),* south coast saltscale *(Atriplex pacifica),* Pendleton button-celery *(Eryngium pendletonense),* little mousetail *(Myosurus minimus),* decumbent goldenbush *(Isocoma menziesii* var. *decumbens),* Dulzura pocket mouse *(Chaetodipus californicus femoralis)* and San Diego pocket mouse *(Chaetodipus fallax fallax)*. Impacts to these species and their habitats should be specifically targeted for identification, impact avoidance and any unavoidable impacts mitigated to a level of less than significant.

3-7 (cont.)

Biological Resources within the Project's Area of Potential Effect

The document should provide a complete assessment of the flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened, sensitive, and locally unique species and sensitive habitats. This should include a complete floral and faunal species compendium of the entire project site,

undertaken at the appropriate time of year. The DEIR should include the following information.

a) CEQA Guidelines, section 15125(c), specifies that knowledge on the regional setting is critical to an assessment of environmental impacts and that special emphasis should be placed on resources that are rare or unique to the region.

b) A thorough, recent floristic-based assessment of special status plants and natural communities, following the Department's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (see http://www.dfg.ca.gov/habcon/plant/). The Department recommends that floristic, alliance-based and/or association-based mapping and vegetation impact assessments be conducted at the Project site and neighboring vicinity. The Manual of California Vegetation, second edition, should also be used to inform this mapping and assessment (Sawyer et al. 2008[3]). Adjoining habitat areas should be included in this assessment where site activities could lead to direct or indirect impacts offsite. Habitat mapping at the alliance level will help establish baseline vegetation conditions. Please note that environmental conditions have not been favorable towards plant species in the last few years and therefore sensitive plant populations may not have expressed themselves completely for detection during surveys.

c) A current inventory of the biological resources associated with each habitat type on site and within the area of potential effect. The Department's California Natural Diversity Data Base in Sacramento should be contacted at www.wildlife.ca.gov/biogeodata/ to obtain current information on any previously reported sensitive species and habitat, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code. The Department recommends the DEIR include an analysis of potential project impacts to marine protected areas.

d) An inventory of rare, threatened, endangered and other sensitive species on site and within the area of potential effect. Species to be addressed should include all those which meet the CEQA definition (see CEQA Guidelines, § 15380). This should include sensitive fish, wildlife, reptile, and amphibian species. Seasonal variations in use of the project area should also be addressed. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with the Department and the U.S. Fish and Wildlife Service.

3-8

3 Sawyer, J. O., T. Keeler-Wolf and J.M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society Press, Sacramento.

Analyses of the Potential Project-Related Impacts on the Biological Resources

To provide a thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts, the following should be addressed in the DEIR.

a) A discussion of potential adverse impacts from lighting, noise, human activity, exotic species, and drainage should also be included. The latter subject should address: project-related changes on drainage patterns on and downstream of the project site; the volume, velocity, and frequency of existing and post-project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and post-project fate of runoff from the project site. The discussions should also address the proximity of the extraction activities to the water table, whether dewatering would be necessary, and the potential resulting impacts on the habitat, if any, supported by the groundwater. Mitigation measures proposed to alleviate such impacts should be included.

3-9

b) Discussions regarding indirect project impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed or existing reserve lands (e.g., preserve lands associated with a NCCP). Impacts on, and maintenance of, wildlife corridor/movement areas, including access to undisturbed habitats in adjacent areas, should be fully evaluated in the DEIR.

c) The zoning of areas for development projects or other uses that are nearby or adjacent to natural areas may inadvertently contribute to wildlife-human interactions. A discussion of possible conflicts and mitigation measures to reduce these conflicts should be included in the environmental document.

d) A cumulative effects analysis should be developed as described under CEQA Guidelines, section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.

Mitigation for the Project-related Biological Impacts

The DEIR should include measures to fully avoid and otherwise protect Rare Natural Communities from project-related impacts. The Department considers these communities as threatened habitats having both regional and local significance.

The DEIR should include mitigation measures for adverse project-related impacts to sensitive plants, animals, and habitats. Mitigation measures should emphasize avoidance and reduction of Project impacts. For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible or would not be biologically viable and therefore not adequately mitigate the loss of biological functions and values, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed.

3-10

For proposed preservation and/or restoration, the DEIR should include measures to perpetually protect the targeted habitat values from direct and indirect negative impacts. The objective should be to offset the project-induced qualitative and quantitative losses of wildlife habitat values. Issues that should be addressed include restrictions on access, proposed land dedications, monitoring and management programs, control of illegal dumping, water pollution, increased human intrusion, etc.

The Department recommends that measures be taken to avoid project impacts to nesting birds. Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (Title 50, § 10.13, Code of Federal Regulations). Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA). Proposed project activities (including, but not limited to, staging and disturbances to native and nonnative vegetation, structures, and substrates) should occur outside of the avian breeding season which generally runs from February 1- September 1 (as early as January 1 for some raptors) to avoid take of birds or their eggs. If avoidance of the avian breeding season is not feasible, the Department recommends surveys by a qualified biologist with experience in conducting breeding bird surveys to detect protected native birds occurring in suitable nesting habitat that is to be disturbed and (as access to adjacent areas allows) any other such habitat within 300 feet of the disturbance area (within 500 feet for raptors). Project personnel, including all contractors working on site, should be instructed on the sensitivity of the area. Reductions in the nest buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, or possibly other factors. **3-11**

The Department generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species. Studies have shown that these efforts are experimental in nature and largely unsuccessful.

Plans for restoration and revegetation should be prepared by persons with expertise in southern California ecosystems and native plant revegetation techniques. Each plan should include, at a minimum: (a) the location of the mitigation site; (b) the plant species to be used, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity. **3-12**

Ms. Herzog
September 9, 2016
Page 10

Conclusion

The Department appreciates the opportunity to comment on the NOP. Department staff is available to consult with the CSLC regarding potential effects to fish and wildlife resources, as well as specific measures which would mitigate potential effects of the project. If you have any questions regarding terrestrial species comments, please contact Eric Hollenbeck, Senior Environmental Scientist, by telephone 760-467-2720 or by email at Eric.Hollenbeck@wildlife.ca.gov. For marine related questions please contact Ms. Loni Adams, Environmental Scientist, (858) 627-3985 or Loni.Adams@wildlife.ca.gov.

Sincerely,

Craig Shuman, D. Env
Regional Manager
Marine Region

ec: Ms. Becky Ota, Program Manager
Department of Fish and Wildlife
Becky.Ota@wildlife.ca.gov

Mr. William Paznokas, Senior Environmental Scientist (Supervisor)
Department of Fish and Wildlife
William.Paznokas@wildife.ca.gov

Ms. Loni Adams, Environmental Scientist
Department of Fish and Wildlife
Loni.Adams@wildlife.ca.gov

Mr. Eric Hollenbeck, Senior Environmental Scientist
Department of Fish and Wildlife
Eric.Hollenbeck@wildlife.ca.gov

Mr. Bryant Chesney
National Marine Fisheries Service
Bryant.Chesney@noaa.gov

Mr. Tom Luster
California Coastal Commission
Tom.Luster@coastal.ca.gov

Comment Set 4

Department of Toxic Substances Control

Barbara A. Lee, Director
5796 Corporate Avenue
Cypress, California 90630

Matthew Rodriquez
Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

August 3, 2016

Ms. Cynthia Herzog
Senior Environmental Scientist
California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, California 95825

NOTICE OF PREPARATION (NOP) FOR SONGS UNITS 2 & 3 POST-SHUTDOWN DECOMMISSIONING PROJECT (SCH# 2016071025)

Dear Ms. Herzog:

The Department of Toxic Substances Control (DTSC) has received your submitted document for the above-mentioned project. As stated in your document: "Southern California Edison and its co-participants have applied to the California State Lands Commission to implement the San Onofre Nuclear Generating Station Units 2 & 3 Post-Shutdown Decommissioning Project. The proposed project has four phases – (1) Decontamination and Dismantlement, (2) Partial Site Restoration and Offshore Conduit Disposition, (3) Independent Spent Fuel Storage Installation (ISFSI) Operation and Maintenance, and (4) ISFSI Removal and Final Site Restoration."

Based on the review of the submitted document DTSC has the following comments:

1. The EIR should identify and determine whether current or historic uses at the project site may have resulted in any release of hazardous wastes/substances.

2. The EIR should identify the mechanism to initiate any required investigation and/or remediation for any site that may be contaminated, and the government agency to provide appropriate regulatory oversight. All environmental investigations, sampling and/or remediation for the site should be conducted under a Workplan approved and overseen by a regulatory agency that has jurisdiction to oversee hazardous substance cleanup. **4-1**

3. If buildings or other structures, asphalt or concrete-paved surface areas are being planned to be demolished, an investigation should be conducted for the **4-2**

presence of other related hazardous chemicals, lead-based paints or products, mercury, and asbestos containing materials (ACMs). If other hazardous chemicals, lead-based paints or products, mercury or ACMs are identified, proper precautions should be taken during demolition activities. Additionally, the contaminants should be remediated in compliance with California environmental regulations and policies.

4. If it is determined that hazardous wastes are or will be generated and the wastes are (a) stored in tanks or containers for more than ninety days, (b) treated onsite, or (c) disposed of onsite, then a permit from DTSC may be required. If so, the facility should contact DTSC at (818) 551-2171 to initiate pre application discussions and determine the permitting process applicable to the facility. Hazardous wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5). If so, the facility should obtain a United States Environmental Protection Agency Identification Number by contacting (800) 618-6942. Certain hazardous waste treatment processes may require authorization from the local Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting your local CUPA. **4-2 (cont.)**

5. If the project plans include discharging wastewater to a storm drain, you may be required to obtain a National Pollutant Discharge Elimination System (NPDES) permit from the overseeing Regional Water Quality Control Board (RWQCB). **4-3**

If you have any questions regarding this letter, please contact me at (714) 484-5476 or email at Johnson.Abraham@dtsc.ca.gov.

Sincerely,

Johnson P. Abraham
Project Manager
Brownfields Restoration and School Evaluation Branch
Brownfields and Environmental Restoration Program - Cypress

cc: See next page.

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044

Mr. Guenther W. Moskat, Chief
Planning and Environmental Analysis Section
CEQA Tracking Center
Department of Toxic Substances Control
Guenther.Moskat@dtsc.ca.gov

Mr. Dave Kereazis (via e-mail)
Office of Planning & Environmental Analysis
Department of Toxic Substances Control
Dave.Kereazis@dtsc.ca.gov

Mr. Shahir Haddad, Chief (via e-mail)
Schools Evaluation and Brownfields Cleanup
Brownfields and Environmental Restoration Program - Cypress
Shahir.Haddad@dtsc.ca.gov

CEQA# 2016071025

Comment Set 5

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN J. Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 11
PLANNING DIVISION
4050 TAYLOR STREET, M.S. 240
SAN DIEGO, CA 92110
PHONE (619) 688-6960
FAX (619) 688-4299
TTY 711

Flex your power!
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July 25, 2016

11-SD-5
PM 69.30
San Onofre Nuclear Decommissioning
SCH No. 2016071025

Ms. Cynthia Herzog
Senior Environmental Scientist
California State Lands Commission
100 Howe Avenue, Suite 100- South
Sacramento, CA 95825

Dear Ms. Herzog:

The California Department of Transportation (Caltrans) appreciates the opportunity to review the Notice of Preparation (SCH No. 2016071025) for the SONGS Units 2 & 3 Post-Shutdown Decommissioning Project draft Environmental Impact Report (EIR). Caltrans has the following comments:

- Please provide information in the draft EIR pertaining to any traffic impacts, management or permits associated with state transportation facilities. **5-1**

If you have any questions, or require further information, please contact Brandon Tobias, at (619) 688-2503.

Sincerely,

JACOB M. ARMSTRONG, Chief
Development Review Branch

Comment Set 6

STATE OF CALIFORNIA
NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone (916) 373-3710
Fax (916) 373-5471
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov
Twitter: @CA_NAHC

Edmund G. Brown Jr., Governor

July 29, 2016

Cynthia Herzog
California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

sent via e-mail:
CEQAcomments@slc.ca.gov

RE: SCH# 2016071025; SONGS Units 2 & 3 Post-Shutdown Decommissioning Project, Draft Environmental Impact Report, San Diego County, California

Dear Ms. Herzog:

The Native American Heritage Commission has received the Notice of Preparation (NOP) for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.), specifically Public Resources Code section 21084.1, states that a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b) (CEQA Guidelines Section 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared. (Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd.(a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a **separate category of cultural resources**, "tribal cultural resources" (Pub. Resources Code § 21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code § 21084.3 (a)). **AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. § 800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments. **Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.**

6-1

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
   a. A brief description of the project.
   b. The lead agency contact information.
   c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code § 21080.3.1 (d)).
   d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code § 21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code § 21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. (Pub. Resources Code § 21080.3.1(b)).
    a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18). (Pub. Resources Code § 21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
    a. Alternatives to the project.
    b. Recommended mitigation measures.
    c. Significant effects. (Pub. Resources Code § 21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
    a. Type of environmental review necessary.
    b. Significance of the tribal cultural resources.
    c. Significance of the project's impacts on tribal cultural resources.
    d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code § 21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code § 21082.3 (c)(1)).

6-1 (cont.)

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
    a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
    b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code § 21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
    a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
    b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code § 21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code § 21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code section 21084.3 (b). (Pub. Resources Code § 21082.3 (e)).

6-2

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
        i. Planning and construction to avoid the resources and protect the cultural and natural context.

   II. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
   I. Protecting the cultural character and integrity of the resource.
   II. Protecting the traditional use of the resource.
   III. Protecting the confidentiality of the resource.
c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
d. Protecting the resource. (Pub. Resource Code § 21084.3 (b)).
e. Please note that a federally recognized California Native American tribe or a nonfederally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code § 815.3 (c)).
f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code § 5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An environmental impact report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code § 21082.3 (d)).

    This process should be documented in the Cultural Resources section of your environmental document.

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

6-2 (cont.)

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code § 65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code § 65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code section 65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city's or county's jurisdiction. (Gov. Code § 65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have been already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
    a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
    b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
    a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
    b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
    c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code section 5097.98, and Cal. Code Regs., tit. 14, section 15064.5, subdivisions (d) and (e) (CEQA Guidelines section 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

6-3

Please contact me if you need any additional information at gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst

cc: State Clearinghouse

Comment Set 7

August 12, 2016

Via U.S. Mail and Email

Cynthia Herzog
Senior Environmental Scientist
California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825
Email: CEQAcomments@slc.ca.gov

Marlayna Vaaler, Project Manager
U.S. Nuclear Regulatory Commission
Office of Nuclear Material Safety and Safeguards
Washington, DC 20555-0001
Email: Marlayna.Vaaler@nrc.gov.

Subject: Environmental Review Scoping Comments for the San Onofre Nuclear Generating Station Units 2 & 3 Post-Shutdown Decommissioning Project

Dear Ms. Herzog:

On behalf of the City of Laguna Beach ("City"), this letter provides preliminary scoping comments on the Notice of Preparation ("NOP") of a draft environmental impact report ("DEIR") for the San Onofre Nuclear Generating Station Units 2 & 3 Post-Shutdown Decommissioning Project ("Project).

A portion of the proposed Project is located within the jurisdiction of the California State Lands Commission ("SLC"), on land within the Marine Corps Base Camp Pendleton, three (3) miles south of the community of San Clemente, west of Interstate 5 (I-5) and adjacent to the Pacific Ocean in northern San Diego County. The Project consists of the following four phases:

- Phase 1 – Decontamination and Dismantlement (2017-2025);
- Phase 2 – Partial Site Restoration and Offshore Conduit Disposition (2020-2035);
- Phase 3 – ISFSI Operation and Maintenance (2035-2049); and
- Phase 4 – Phase 4: ISFSI Removal and Final Site Restoration (2049-2051).

According to the NOP, the Project has the potential to cause a number of significant short-term, long-term and cumulative environmental impacts. The SLC, as the lead agency under the California Environmental Quality Act ("CEQA"),[1] has correctly determined that an EIR is required. As a responsible agency under CEQA and a cooperating agency under the National Environmental Policy Act ("NEPA"),[2] the City respectfully submits the following scoping comments.

[1] Pub. Res. Code §§ 21000 *et seq.*; *see also* Cal. Code Regs., tit. 14, ch. 3, § 15000 et seq. ("CEQA Guidelines").

[2] 42 USC §§ 4341 et seq.; *see also* Council on Environmental Quality ("CEQ") NEPA Regulations, contained in 40 C.F.R. Parts 1500-1508.

505 FOREST AVE. • LAGUNA BEACH, CA 92651 • TEL (949) 497-3311 • FAX (949) 497-0771

1. Consultation with the City concerning this Project's traffic, recreation, and open space impacts is required.

On July 12, 2016, the City of Laguna Beach became aware of the Project when City staff received the NOP. Section 15083 of the CEQA Guidelines encourages lead agencies to consult with other interested parties early in the environmental review process. The NOP solicits input from such interested parties, including the City. The City hereby submits these comments within the period requested in the NOP.

Because the Project is one of regional and areawide significance, a scoping meeting is required pursuant to Public Resources Code, section 21083.9(a)(2). Further, because the City exercises authority over resources that may be affected by the Project, including transportation facilities within its jurisdiction that could be affected, the SLC is required to consult with the City concerning potential effects to those resources.[3] We hereby request consultation concerning the Project's impacts to all potentially impacted transportation facilities within the City and to the area's beaches, adjacent ocean resources, open space and wildlife habitat resources. **7-1**

Pursuant to Public Resources Code, section 21092.2, we also request notice of all stages of environmental review for the Project and any and all actions that the SLC proposes to take on this Project. Please send any and all notices via email to the following persons: **7-2**

a) Mike Phillips, Environmental Specialist, at mphillips@lagunabeachcity.net;
b) Christa Johnson, Assistant City Manager, cjohnson@lagunabeachcity.net; and
c) Jason Holder, outside legal counsel retained for this matter, jason@holderecolaw.com.

Additionally, please send paper copies of notice documents solely to the undersigned.

2. Because the Nuclear Regulatory Commission Must Ultimately Approve the Decommissioning Project, There is a Federal Nexus Triggering the Need for a Joint EIR/EIS.

The Project is subject to oversight and review by the U.S. Nuclear Regulatory Commission ("NRC") under Title 10 of the Code of Federal Regulation, Part 50, Section 50.59 (10 CFR 50.59), applying to design changes, tests and experiments carried out at licensed nuclear facilities. The Project involves design changes to SONGS that will ultimately require NRC approval. For example, the NRC will have to approve SCE's license termination plan. Arguably, the Project also requires a license amendment.[4] When it fulfills its statutory duties, **7-3**

[3] PRC, § 21092.4; CEQA Guidelines, § 15086(a).

[4] For example, the NRC has not approved the design of the Holtec UMAX system that SCE has proposed for the ISFSI, and that partially subterranean design may reduce radiation safety. The proposed changes and alterations to the SONGS facility's design associated with decommissioning, including the Spent Fuel Pool Island Project ("SFPI") and the expanded and modified Independent Spent Fuel Storage Installation ("ISFSI"), require a license amendment because these changes were never addressed in the SONGS Final Safety Analysis Report ("FSAR") or any of the updates to the FSAR. *See* 10 C.F.R. §§ 50.56, 50.59(c). In addition, the Updated FSAR also does not consider the effects of sea level rise caused by

NRC will be the federal lead agency for review of the Project pursuant to NEPA. To adequately address the environmental impacts of the whole of the Project, SLC and NRC should jointly prepare an EIR/EIS for the Project. (*See* CEQA Guidelines, §§ 15006(j), 15170, 15220, 15222.) The CEQA Guidelines are clear:

> If a Lead Agency finds that an [Environmental Impact Statement ("EIS")] or Finding of No Significant Impact for a project would not be prepared by the federal agency by the time when the Lead Agency will need to consider an EIR or Negative Declaration, the Lead Agency should try to prepare a combined EIR-EIS or Negative Declaration-Finding of No Significant Impact. To avoid the need for the federal agency to prepare a separate document for the same project, the Lead Agency must involve the federal agency in the preparation of the joint document.
>
> This involvement is necessary because federal law generally prohibits a federal agency from using an EIR prepared by a state agency unless the federal agency was involved in the preparation of the document.[5]

Similarly, the CEQA regulations for implementing NEPA encourage cooperation with state and local agencies in an effort to reduce duplication in the NEPA process.[6]

7-3 (cont.)

In the required Draft EIR/Environmental Impact Statement ("DEIR/S"), NRC should fully address the radiological safety concerns that are purportedly preempted by federal law.[7] This is the elephant in the room that can no longer be concealed or brushed aside under a blanket claim of federal preemption. The public's interests and legal rights to understand the full environmental impacts of the decommissioning process will be circumvented if radiological safety issues are not addressed in the DEIR/S analysis.

When conducting this analysis, NRC will have to analyze site-specific radiological safety concerns.[8] The NRC's past "generic" EIS documents do not satisfy the requirement for detailed impact analysis. These boilerplate analyses do not address the specific circumstances that make SONGS decommissioning particularly worrisome to neighboring stakeholders, including the City's residents, businesses, and visitors. In *Natural Resources Defense Council v. Morton*, the

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climate change and associated reductions of radiation safety at SONGS. *See* SONGS FSAR, Hydrologic Engineering Chapter, available at: http://www.nrc.gov/docs/ML1114/ML11145A032.pdf.

[5] CEQA Guidelines, § 15222; *see also id* at §§ 15226, 15228.

[6] 40 CFR § 1506.2.

[7] As discussed further below, when recently approving the ISFSI, the California Coastal Commission did not analyze the "radiological safety" impacts of spent fuel storage casks based on a claim of federal preemption. (*See* Addendum to CCC Staff Report, dated Oct. 5, 2015 (CCC ISFSI Addendum), pp. 10-11, available at: http://documents.coastal.ca.gov/reports/2015/10/Tu14a-10-2015.pdf.) Comments made to the Coastal Commission and included in the CCC ISFSI Addendum are hereby incorporated herein by reference.

[8] The 2002 Supplement to NRC's *Final Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities* (NUREG-0586 Supplement 1) (the "Supplement") does not address storing spent fuel in a seismically active marine environment such as that characterizing the Project site. *See generally* Supplement, available at: http://www.nrc.gov/docs/ML0234/ML023470304.pdf.

Bureau of Land Management attempted to grant individual licenses, relying solely on a program EIS for the entire licensing program.[9] The court found that the program EIS failed to provide the decisionmaker with information regarding the specific and particular consequences of the action.[10] A similar finding was made by the court in *Natural Resources Defense Council v. Administrator*: "As a general rule, the preparation of a [program EIS] does not obviate the necessity of preparing a particularized impact statement for individual major federal actions that are components of a subject program."[11] Several courts have confirmed that site-specific environmental analyses are required before a lead agency can dispense with environmental review.[12]

Here, the NRC's Supplement generically analyzing the impacts of decommissioning identified two categories of impacts to be site-specific: threatened and endangered species and environmental justice. These issues must be addressed in the DEIR/S for this Project. It also identified four categories of impacts that it termed "conditionally site-specific":

- Land use involving offsite areas to support decommissioning activities
- Aquatic ecology for activities beyond the operational area
- Terrestrial ecology for activities beyond the operational area
- Cultural and historic resources for activities beyond the operational area with no current cultural and historic resource survey.[13]

7-3 (cont.)

The Supplement also concluded that environmental justice impacts must be determined on a site-specific basis.[14] The DEIR/S required for this Project must also address each of these site-specific impact categories and any others implicated by the proposed actions.

The NRC's Supplement also acknowledged site-specific analysis would be required when circumstances for decommissioning are unusual. Additionally, the NRC's more recent *Generic EIS for Continued Storage of Spent Nuclear Fuel* acknowledged that prior studies did not consider seismic risks at western nuclear reactors including San Onofre.[15] Here, because the Project site is located in a seismically active area and is immediately adjacent to a sensitive

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[9] *Natural Resources Defense Council v. Morton* (1974) 388 F.Supp. 829.

[10] *Id.* at 838.

[11] *Natural Resources Defense Council v. Administrator* (1978) 451 F.Supp. 1245, 1258.

[12] The Ninth Circuit of the U.S. Court of Appeals, which includes California, adopted similar reasoning. (*See, Natural Resources Defense Council v. Hodel* (9th Cir. 1987) 819 F.2d 927, 928 (refers to *NRDC v. Morton, supra*, as "the leading case in this area"); *City of Tenakee Springs v. Block* (9th Cir. 1985) 778 F.2d 1402, 1407 ("[w]here there are large-scale plans for regional development, NEPA requires both a programmatic and a site-specific EIS"); *Oregon Environmental Council v. Kunzman* (9th Cir. 1983) 714 F.2d 901 (Oregon Department of Agriculture ordered to prepare site-specific EIS for herbicide spraying program and had erred in relying on earlier program EIS).

[13] Supplement, p. xvi.

[14] *Id.* at p. 4-65.

[15] *See NRC Generic EIS for Continued Storage of Spent Nuclear Fuel* (NUREG–2157), pp. xlii, F-10 fn. 5, available at: http://www.nrc.gov/docs/ML1419/ML14196A105.pdf.

marine ecosystem, the site-specific analysis must consider the associated risks of radiological contamination. **7-3 (cont.)**

In September 2014, SCE submitted a post-shutdown decommissioning activities report ("PSDAR"), the licensee's required analysis of the extent to which the Project's impacts are covered by the analysis in NRC's Supplement.[16] In its PSDAR, SCE asserted that "[b]ased on current plans, no decommissioning activities unique to the site have been identified and no activities or environmental impacts outside the bounds considered in the GEIS have been identified."[17] The City strenuously disagrees with this conclusion and requests that the NRC conduct an independent assessment of the extent to which the environmental impacts of the Project require site-specific analysis in the DEIR/S, especially given the Project's unique environmental setting. **7-4**

When engaging in further consultation with the City and other concerned stakeholders, please confirm that the SLC and NRC will prepare a joint DEIR/S that will address radiological safety issues and will support the analysis with substantial evidence.

3. The DEIR/S Must Analyze the Impacts of the Whole Project.

Both CEQA and NEPA require lead agencies to analyze the impacts of the "whole of the project."[18] Here, the whole of the project is the entire decommissioning process. The NRC defines "decommission" in 10 CFR 50.2 as a process "to remove a facility or site safely from service and reduce residual radioactivity to a level that permits (1) Release of the property for unrestricted use and termination of the license; or (2) Release of the property under restricted conditions and termination of the license." This process necessarily includes each step following the decision to cease operations to the termination of the NRC license. Indeed, in its PSDAR, SCE admits that the decommissioning process necessarily includes Spent Nuclear Fuel Management Periods.[19] **7-5**

Unfortunately, there has already been a pattern of piecemealed review and approval of various smaller "projects" that are in actuality inextricably connected to SONGS decommissioning. For example, the CPUC approved SCE's decommissioning cost estimate in December 2014. This decision was not preceded by any environmental impact analysis. Then,

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[16] *See* SCE's PSDAR for SONGS, available at: http://www.nrc.gov/docs/ML1426/ML14269A033.pdf.

[17] *See id.* at p. 8. The PSDAR is ostensibly supported by SCE's Environmental Impact Evaluation ("EIE"). *See* PSDAR for SONGS, p. 18. Like the PSDAR, the EIE concluded that "SCE's review confirmed that the anticipated or potential impacts are within the bounds of the generic impacts that the NRC described in the decommissioning GEIS." *See* EIE, p. ES-3, available at: https://www.songscommunity.com/docs/eieaug1.pdf. The EIE, however, provides only a cursory review of potential environmental impacts from the Project applicant's undeniable self-interested perspective, and that review relies on multiple unsupported assumptions. An independent review of Project impacts, conducted by state and federal agencies, is required.

[18] *See* CEQA Guidelines § 15378(a) [a "project" means the whole of an action that may cause either a direct or reasonably foreseeable indirect physical change in the environment]; *see also McQueen v. Board of Directors of the Midpeninsula Regional Open Space District* (1988) 202 Cal.App.3d 1136, 1143; *see also Thomas v. Peterson*, 753 F.2d 754 (9th Cit. 1985); *see also Save Yaak Comm. v. Block*, 840 F.2d 714 (9th Cir. 1988).

[19] *See* SCE's PSDAR for SONGS, p. 8.

in 2015, the Coastal Commission approved the SFPI and several months later approved the ISFSI for SONGS. These components of the overall decommissioning project should have been analyzed together in a single EIR/S. Instead, their individual effects have been minimized by chopping up the larger project into smaller pieces.

7-5 (cont.)

The DEIR/S must analyze the impacts of all phases of decommissioning, including the SFPI and the ISFSI. Again, the public's interests and legal rights to understand the full environmental impacts of the SONGS decommissioning process will be thwarted if the DEIR/S analysis does not consider all necessary aspects of decommissioning.

4. The SLC Has Broad Authority to Analyze Radiological Safety Issues and to Regulate Non-Radioactive Health and Safety Issues.

As noted above, the City recognizes that some of the issues identified above may be considered radiologic safety issues that could be preempted under federal law. The Coastal Commission did not analyze many safety issues raised by commenters based on a claim of federal preemption. Specifically, it asserted:

> Without assessing the validity of these concerns, the Commission staff notes that the consequences of any failure, malfunction, or defects in the proposed cooling system are related to radiological safety, which is under the exclusive jurisdiction of the federal [NRC]. [20]

7-6

While a state agency may be prevented from imposing restrictions on nuclear power plants based on federal preemption, nothing prevents the state agency from analyzing radiological safety issues and recommending restrictions (i.e., mitigation measures and alternatives) that the NRC can and should adopt.

Further, while both federal and state regulatory agencies have oversight over nuclear power facilities, it is well-settled that state regulators maintain their traditional authority to regulate non-radioactive health and safety issues, including land-use, environmental, and economic concerns associated with nuclear power generation.[21] SLC regulatory action for this Project is not preempted when motivated by non-preempted concerns and when it neither conflicts with nor frustrates the Congressional purpose of the Atomic Energy Act ("AEA").[22] Thus, even if the NRC does not presently assume its proper role as co-lead agency for this Project, for purposes of performing the analysis of radiological safety impacts, SCE must satisfy its duty to analyze non-radioactive health and safety issues.

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[20] CCC ISFSI Addendum, pp. 10-11.

[21] *Pacific Gas & Electric Co. v. State Energy Res. Conservation & Dev. Comm'n*, 461 U.S. 190, 205, 212 (1983) (*PG&E*).

[22] *Id.* at 220-223.

5. The DEIR/S must adequately analyze the Project's potentially significant impacts to marine life, air and water quality, City transportation and recreation facilities, and it must consider secondary impacts and analyze a reasonable range of Project alternatives.

The DEIR/S must include thorough analysis of the following potentially significant environmental impacts that could affect the City and its residents:

a) Demolition impacts – Impacts to air and ocean water quality during demolition of Units 2 & 3 reactor structures

b) Damage to roadways and other infrastructure caused by the transportation of structures, systems, and components ("SSCs"), hazardous materials, and any contaminated soils and water[23]

c) Impacts to groundwater supplies caused by potential radiation contamination and contamination that may have already occurred

d) Impacts associated with disposing of spent fuel pool water – Discussion of how contaminated water from the spent fuel cooling pool is disposed of after rods are removed

7-7

e) Impacts to special status species

The NOP acknowledges that four special-status reptiles have the potential to occur within the offshore Project area and that several other special-status species have the potential to occur within the onshore Project site.[24]

f) Impacts to marine life if cooling system intake and discharge conduits, and the fish return system conduit are left partially or completely in place

g) Seismic-related hazards associated with the storage of spent nuclear fuel storage casks for at least 20 years and quite possibly longer[25]

h) Impacts that may occur if the dry storage casks in the ISFSI crack and release radiological contamination

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[23] SCE's EIE states that decommissioning will involve the transportation of millions of cubic feet of radioactive and nonradioactive waste. *See* EIE, p. ES-16. It then explains that "SCE plans to ship the bulk of radiological waste by rail; however, there may be times when truck shipments will be required." *Ibid.*

[24] *See* NOP, Attachment, p. 19.

[25] In a June 2015 staff report, Coastal Commission staff noted that "Though SCE seeks temporary development authorization until 2051, there is no assurance that SCE will be able to transfer the spent fuel to DOE custody and decommission the proposed facility as planned by 2051, complicating the analysis of the project's exposure to geologic hazards and its potential to adversely affect coastal resources. The uncertain duration of the ISFSI's presence at the proposed location also has implications for SCE's alternatives analysis…." (CCC ISFSI Addendum, Staff Report, p. 20.)

i) Cumulative impacts – Please address the potential impacts to the surrounding environment (earth, land, sea, air) of short-term, long-term, and indefinite storage of spent nuclear fuel on the Project site.

j) Mitigation Measures – please include measures to reduce or eliminate all potentially significant Project impacts

If the SLC concludes that mitigation measures are within the responsibility and jurisdiction of another agency, such as the NRC, then it must recommend that those measures "can and should" be adopted by that agency.

k) Weekday and peak traffic impacts on all surrounding roads and intersections caused by transporting SSCs, spent nuclear fuel storage casks, and any contaminated soils and water

l) Weekend and off-peak traffic impacts on Highway 1 and SR 133 (Laguna Canyon Road)

7-7 (cont.)

m) Impacts on the City's recreation facilities including its beaches and shoreline caused by the Project[26]

n) Public service impacts to the City's residents, including any reduced police, fire, or ambulance services or increased response times caused by Project activities[27]

o) Secondary impacts caused by increased Project traffic, including air quality impacts and increased greenhouse gas (GHG) emissions

p) Consideration of a reasonable range of Project alternatives, including options for removal of the dry storage casks from the Project site and to either a Consolidated Interim Storage ("CIS") location or to a permanent spent nuclear fuel storage facility

Please include all technical support for the above analyses in appendices to the DEIR/S.

* * *

We request that the SLC and NRC provide a joint environmental impact analysis that considers the Project in its entirety. The requested DEIR/S must enable fulfillment of duties to protect communities and natural resources by considering and minimizing all potentially

[26] The NOP indicates that SLC staff has concluded that the Project would not have any potentially significant impacts to recreation. (NOP, p. 18.) This conclusion is incorrect and is unsupported by substantial evidence. Because the Project is located adjacent to the Pacific Ocean and near several state beaches, it has the potential to impact these recreation facilities. Those impacts must be analyzed in the DEIR/S and mitigated to the extent feasible.

[27] Again, the NOP indicates that SLC staff has concluded that the Project would not have any potentially significant impacts to public services. (NOP, p. 18.) This conclusion is similarly incorrect and is also unsupported by substantial evidence.

significant impacts of the Project, including those that have heretofore been disregarded as the exclusive province of the federal government.

If you have any questions concerning these comments, please contact Michael Phillips at (949) 497-0390 and at mphillips@lagunabeachcity.net.

Sincerely,

John Pietig
City Manager

cc: (via email only)
City Council
Christa Johnson, Assistant City Manager
David Shissler, Director of Water Quality
Mike Phillips, Environmental Specialist
Jason Holder, outside legal counsel

Comment Set 8

Herzog, Cynthia@SLC

Subject: FW: SONGS Decommissioning NOP comments

From: Klockenga, Gary [mailto:GKlockenga@sandiego.gov]
Sent: Wednesday, July 27, 2016 10:49 AM
To: Comments, CEQA@SLC
Subject: SONGS Decommissioning NOP comments

Hello,

This message is for Cynthia Herzog. In our role as a depository library for California state government publications (California Government Code, Library Distribution Act), we are requesting that a copy of the SONGS Decommissioning draft and final EIRs be sent to us when they are published.

Our mailing address is:

Government Publications Unit
San Diego Public Library
330 Park Blvd.
San Diego CA 92101

8-1

Thank you.

Gary Klockenga
Government Documents/Periodicals Manager, Central Library @ Joan and Irwin Jacobs Common
City of San Diego
San Diego Public Library

T (619)) 236-5822
sandiego.gov

Comment Set 9

COUNTY OF LOS ANGELES
FIRE DEPARTMENT
1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294

DARYL L. OSBY
FIRE CHIEF
FORESTER & FIRE WARDEN

August 16, 2016

Cynthia Herzog, Senior Environmental Scientist
California State Lands Commission
Environmental Section
100 Howe Avenue, Suite 100 South
Sacramento, CA 95825

Dear Ms. Herzog:

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT AND NOTICE OF PUBLIC SCOPING MEETING, "SAN ONOFRE NUCLEAR GENERATING STATION UNITS 2 & 3 POST-SHUTDOWN DECOMMISSIONING PROJECT," IT CONSIST OF FOUR PHASES (1) DECONTAMINATION AND DISMANTLEMENT, ETC., SAN DIEGO COUNTY, FFER 201600128

The has been reviewed by the Planning Division, Land Development Unit, Forestry Division, and Health Hazardous Materials Division of the County of Los Angeles Fire Department.

The following are their comments:

PLANNING DIVISION:

The subject property is entirely within the County of San Diego, which is not a part of the emergency response area of the Los Angeles County Fire Department (also known as the Consolidated Fire Protection District of Los Angeles County). Therefore, this project does not appear to have any impact on the emergency responsibilities of this Department.

SERVING THE UNINCORPORATED AREAS OF LOS ANGELES COUNTY AND THE CITIES OF:

IOURA HILLS	CALABASAS	DIAMOND BAR	HIDDEN HILLS	LA MIRADA	MALIBU	POMONA	SIGNAL HILL
ITESIA	CARSON	DUARTE	HUNTINGTON PARK	LA PUENTE	MAYWOOD	RANCHO PALOS VERDES	SOUTH EL MON
USA	CERRITOS	EL MONTE	INDUSTRY	LAKEWOOD	NORWALK	ROLLING HILLS	SOUTH GATE
LDWIN PARK	CLAREMONT	GARDENA	INGLEWOOD	LANCASTER	PALMDALE	ROLLING HILLS ESTATES	TEMPLE CITY
LL	COMMERCE	GLENDORA	IRWINDALE	LAWNDALE	PALOS VERDES ESTATES	ROSEMEAD	WALNUT
LL GARDENS	COVINA	HAWAIIAN GARDENS	LA CANADA FLINTRIDGE	LOMITA	PARAMOUNT	SAN DIMAS	WEST HOLLYW
LLFLOWER	CUDAHY	HAWTHORNE	LA HABRA	LYNWOOD	PICO RIVERA	SANTA CLARITA	WESTLAKE VILL
ADBURY							WHITTIER

LAND DEVELOPMENT UNIT:

This project is located entirely in the County of San Diego and Fire Department Emergency Response is provided by the Camp Pendleton Fire Department at this time. Therefore, the County of San Diego and the Camp Pendleton Fire Department has jurisdiction concerning this project and will be setting conditions. This project is located in close proximity to the jurisdictional area of the Los Angeles County Fire Department. However, this project is unlikely to have an impact that necessitates a comment concerning general requirements from the Land Development Unit of the Los Angeles County Fire Department.

Should any questions arise regarding subdivision, water systems, or access, please contact the County of Los Angeles Fire Department Land Development Unit's Inspector Nancy Rodeheffer at (323) 890-4243.

The County of Los Angeles Fire Department's Land Development Unit appreciates the opportunity to comment on this project.

FORESTRY DIVISION – OTHER ENVIRONMENTAL CONCERNS:

The statutory responsibilities of the County of Los Angeles Fire Department's Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones or Fire Zone 4, archeological and cultural resources, and the County Oak Tree Ordinance. Potential impacts in these areas should be addressed.

9-1

HEALTH HAZARDOUS MATERIALS DIVISION:

The Health Hazardous Materials Division (HHMD) of the Los Angeles County Fire Department has no comment regarding the project because it is outside of HHMD's jurisdiction.

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,

KEVIN T. JOHNSON, ACTING CHIEF, FORESTRY DIVISION
PREVENTION SERVICES BUREAU

KTJ:cc

Cynthia Herzog, Senior Environmental Scientist
August 16, 2016
Page 3

bc: ERU
Land Development
Planning
HHMD
#219
Edapts Upload

(FFER #201600128/Forestry Admin)

Comment Set 10

Juan C. Perez, P.E., T.E.
Transportation and Land Management Agency Director

COUNTY OF RIVERSIDE
TRANSPORTATION AND LAND MANAGEMENT AGENCY
Transportation Department

Patricia Romo, P.E.
Director of Transportation

August 11, 2016

Cynthia Herzog, Senior Environmental Scientist
California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825

RE: **San Onofre Nuclear Generating Station Units 2 & 3 Decommissioning Project**
Notice of Preparation of a Draft Environmental Impact Report
File Ref: SCH No. 20167105, CSLC EIR No. 784: W30209

Dear Ms. Herzog,

The County of Riverside Transportation Department (Department) has reviewed the Notice of Preparation for the San Onofre Nuclear Generating Station Units 2 & 3 Post-Shutdown Decommissioning Project (Report). This letter provides the Department's general comments on the above referenced project.

COMMENTS

1. On Page 7 of 22, the Project Description states in part, "All activated materials generally have to be removed from the site and shipped to a waste processing storage, or disposal facility". Additionally, on page 13 of 22, section 2.2.4 states, "the Co-Participants are proceeding under an assumption that all spent fuel will be shipped offsite by 2049". The Report does not specify haul routes or the locations of potential disposal/processing facilities. The Department is concerned about potential health hazard of transporting potentially hazardous material within our County's jurisdiction. As such, the County is formally requesting that the Department be notified at least 60 days prior to the transport of potentially hazardous material within the Riverside County jurisdictional limits, including the use of the State Highway System. The notification shall include enough information to confirm that potential hazards to the residents of Riverside County and its Cities have been mitigated to acceptable levels. The requested information should include, but is not limited to, size of the trucks and containers used for transporting potential hazardous material, contingency plans, potential exposure risks during transport and in the event of an emergency, safety systems and procedures in place for transporting material, and documentation to verify the safety and adequacy of the disposal/processing facility. **10-1**

4080 Lemon Street, 8th Floor · Riverside, CA 92501 · (951) 955-6740
P.O. Box 1090 · Riverside, CA 92502-1090 · FAX (951) 955-3198

2. On page 21 of 22, the Report states, "Project-related onshore demolition and removal activities would increase traffic along local and regional roadways". A traffic study should be submitted to describe the nature of the traffic impacts and any required mitigation measures including avoiding peak traffic periods. **10-2**

3. In general, the Department requires a permit for transport load greater than 40 feet in length, 96 inches in outside width, gross weight of 80,000 lbs, or 14 feet in height. If transport loads exceed any of these thresholds, an application shall be filed with the Department's Permits Section. **10-3**

Please note that the above comments are based on the information provided in the Notice of Preparation for the project. The Department reserves the right to provide additional comments as more information become available. If you have any questions, please feel free to contact me at (951) 955-2016.

Sincerely,

Russell Williams

Russell Williams
Development Review Manager

RUW:BEC:rg

cc: Juan C. Perez, Director of Transportation and Land Management
Patricia Romo, Director of Transportation
Mojahed Salama, Deputy Director of Transportation

4080 Lemon Street, 8th Floor · Riverside, CA 92501 · (951) 955-6740
P.O. Box 1090 · Riverside, CA 92502-1090 · FAX (951) 955-3198

Comment Set 11

County of San Diego

MARK WARDLAW
DIRECTOR
PHONE (858) 694-2962
FAX (858) 694-2555

PLANNING & DEVELOPMENT SERVICES
5510 OVERLAND AVENUE, SUITE 310, SAN DIEGO, CA 92123
www.sdcounty.ca.gov/pds

DARREN GRETLER
ASSISTANT DIRECTOR
PHONE (858) 694-2962
FAX (858) 694-2555

August 18, 2016

Cynthia Herzog
Senior Environmental Scientist
California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825

Via email to CEQAcomments@slc.ca.gov

SAN ONOFRE NUCLEAR GENERATING STATION UNITS 2 & 3 POST-SHUTDOWN DECOMMISSIONING PROJECT

Dear Ms. Herzog,

The County of San Diego (County) has reviewed the San Onofre Nuclear Generating Station (SONGS) Units 2 & 3 Post Shutdown Decommissioning Project (Project), and appreciates this opportunity to provide input. The County has completed their review and has the following comments regarding the proposed project.

DEPARTMENT OF ENVIRONMENTAL HEALTH

The Hazardous Materials Division (HMD) of the Department of Environmental Health is the Certified Unified Program Agency (CUPA) for the County of San Diego. As the local CUPA, the HMD implements the Unified Program in the County and regulates SONGS and all businesses throughout the county, for storing hazardous materials, generating and treating hazardous wastes, generating medical wastes, and to ensure compliance with state and federal aboveground and underground storage tank requirements. **11-1**

During decommissioning activities, various amounts of hazardous materials would be transported, used, or disposed of during the post-shutdown process and the HMD respectfully requests the Draft Environmental Impact Report (EIR) consider impacts and increased risks for releases arising from the use, handling, storage, or disposal of hazardous waste or hazardous materials. **11-2**

Specifically, for this proposed project, the HMD respectfully requests the following be addressed:

1) Although the Project Description references that decommissioning would include clean up, remediation, removal and proper disposal of contaminated materials (both radiological and non-radiological) "to levels that are acceptable to jurisdictional agencies," it should be specifically noted that the use and management of hazardous materials, hazardous waste determination and disposal of any hazardous waste must comply with applicable regulations, such as the Resource Conservation and Recovery Act of 1976, the State Hazardous Waste Control Act and the local CUPA requirements.

2) SONGS environmental personnel, security personnel, and major contractor personnel changes be reported to HMD as soon as possible through the California Environmental Reporting System (CERS) including updated facility site map, hazardous materials and hazardous waste inventory information, to ensure the most current information is available to first responders.

3) Since personnel contacts and access to the property are paramount, HMD should also be notified if access to the property changes. If a hazardous materials response is necessary, updated contacts and site access changes will be very important to the County of San Diego's Hazardous Incident Response Team (HIRT).

4) Arrangements for emergency services from local authorities should occur on a routine basis. SONGS should arrange for the HIRT walkthrough of the storage areas and confirmation of notification procedures with environmental contacts in the event of a release.

5) Provide a statement that the local CUPA (DEH-HMD) has the authority to check the storage areas for hazardous chemicals; including the hazardous wastes (that includes hazardous waste storage area).

11-3

If you have any questions regarding the above comments, please contact Sande Pence, Supervising Environmental Health Specialist for the HMD North County office at (760) 940-2858.

TRANSPORTATION

1) Project NOP Section 1.3 (Decommissioned Material Transportation Routes) states that truck trips will be determined by the "Decommissioning General Contractor" and may include traversing County of San Diego roads. Truck routes, truck types, and proposed material to be transported should be identified and assessed in the EIR/TIS (Traffic Impact Study). The EIR should also identify if any truck trips will include oversized loads and/or radioactive material.

11-4

2) The EIR should note that construction permits from the County will be required for any work (to accommodate project related truck trips) within the County right-of-way. **11-5**

3) Project NOP Section 3.2.10 (Transportation/Traffic) notes that the Project will increase traffic along local and regional roadways. The EIR's TIS should reference and use the County's Transportation and Traffic, Traffic Guidelines and Report Format & Content Requirements (Second Modification, August 24, 2011) for traffic analysis of direct and/or cumulative traffic impacts on roadway segments and intersections within the County's jurisdiction. If the proposed project's traffic results in a significant traffic impact to County facilities, mitigation for the traffic impact must be proposed. **11-6**

AIR QUALITY

The Project may have demolition or renovation activities subject to Subpart M of the National Emission Standards for Hazardous Air Pollutants (NESHAP), applicable to asbestos. Subpart M will apply when:

- The material being removed is greater than 160 ft^2 (surfacing) or 260 linear feet (pipes or pipe insulation); and
- The material contains more than 1% asbestos, as determined by Polarized Light Microscopy method, conducted by a National Voluntary Laboratory Accreditation Program (NVLAP) laboratory; and
- The material is friable or made friable by the removal process; or
- There will be demolition activities subject to Subpart M even when asbestos is not present. **11-7**

The Air Pollution Control District requires a notification for all projects subject to Subpart M at least 10 working days prior to the start of the demolition/renovation. A 10 day District notification is also required when the project involves any wrecking or removal of any load-supporting structural member of the facility with any related handling operation (even when asbestos is not present).

For more information regarding asbestos notifications please visit http://www.sdapcd.org/content/sdc/apcd/en/compliance-programs/asbestos_program.html or contact William Jacques, Senior Air Quality Inspector at (858) 586-2671.

EMERGENCY SERVICES

1) In reference to the Project NOP Section 2.3 (Ongoing Site Activities during Decommissioning – Emergency Planning and Radiation Protection); the County highly supports the continuation of emergency planning activities throughout the Project. Emergency Planning is essential for the protection of the community until all spent fuel can be transferred offsite to a permanent storage facility. In addition, radiation detection measures should be maintained on site as long as spent fuel, contaminated facilities and equipment remain on site. **11-8**

2) In reference to the Project NOP Section 3.2.6 (Hazardous/Radiological Materials); the County agrees that the EIR must address potential conditions during the Project that could result in the release of hazardous and/or radiological materials, fire, explosion, or other conditions that could be hazardous to the public and the environment. The report should also describe the preparedness and response measures in place throughout the decommissioning process which will mitigate the likelihood and/or impact of these hazards.

11-9

The County looks forward to receiving future documents and/or notices related to this project and providing additional assistance at your request. If you have any questions regarding these comments, please contact Emma Schoppe, Land Use/Environmental Planner at (858) 495-5437, or via email at Emma.Schoppe@sdcounty.ca.gov.

Sincerely,

Joe Parace, Group Program Manager
Advance Planning Division
Planning & Development Services

Email cc:

Michael De La Rosa, Policy Advisor, Board of Supervisors, District 1
Adam Wilson, Policy Advisor, Board of Supervisors, District 2
Keith Corry, Policy Advisor, Board of Supervisors, District 3
Melanie Wilson, Board of Supervisors, District 4
Chris Livoni, Policy Advisor, Board of Supervisors, District 5
Vincent Kattoula, CAO Staff Officer, LUEG
Richard Crompton, Director, DPW
Jon Adams, Assistant Director, APCD
Maryam Sedghi, Chief, DEH
Sande Pence, Supervising Environmental Health Specialist, DEH
Laurel Lees, Planning Manager, PDS
Emma Schoppe, Land Use/Environmental Planner, PDS
Richard Chin, Transportation Specialist, DPW
Jeff Kashak, Environmental Planner, DPW
Mary Wells Bennet, Admin Analyst, DEH
William Jacques, Air Quality Specialist, APCD
Bennett Cummings, Emergency Services Coordinator, OES
Tom Amabile, Sr. Emergency Services, OES

Comment Set 12

NORTH COUNTY TRANSIT DISTRICT

810 Mission Avenue
Oceanside, CA 92054
(760) 966-6500
(760) 967-2001 (fax)
www.GoNCTD.com

August 15, 2016

Ms. Cynthia Herzog
Senior Environmental Scientist
California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825

Re: Notice of Comments for the San Onofre Nuclear Generating Station Decommissioning Project

Dear Ms. Herzog:

Thank you for the opportunity to respond to the Notice of Preparation (NOP) for the Environmental Impact Report (EIR) for the *San Onofre Nuclear Generating Station Units 2 and 3 Post-Shutdown Decommissioning Project* being undertaken by the California State Lands Commission (CSLC).

The North County Transit District (NCTD) owns and/ or operates the portion of the Los Angeles - San Luis Obispo – San Diego (LOSSAN) Rail Corridor from the Orange and San Diego Counties boundary, down to Santa Fe Depot in San Diego. NCTD may eventually operate portions of the corridor north of this area. The LOSSAN Rail Corridor is an extremely important transportation and interstate commerce artery for both passenger and freight trains in Southern California. It is the second busiest passenger rail corridor in the United States, servicing 7.2 million passengers annually on the COASTER (NCTD), Amtrak, and Metrolink lines. Additionally, the tracks within NCTD's segment of the corridor are a key artery for the movement of goods in and out of San Diego and its port facility.

12-1

The San Onofre Nuclear Generating Station (SONGS) facility is directly adjacent to a portion of the LOSSAN Rail Corridor under NCTD's control and operation. NCTD is offering comments to the public record for consideration because the decommissioning of the SONGS facility contemplates the use of NCTD's railway as a means to transport materials onto and off of the site, which may have significant implications for rail infrastructure and operations (see Attachment A).

If materials are to be moved via the LOSSAN Rail Corridor into NCTD territory, an agreement will need to be established with NCTD to ensure that the proposed train traffic and movements from SONGS can be accomplished without impacts to other rail operations, or that such impacts are offset through additional infrastructure or other mechanisms.

NCTD respectfully requests that CSLC staff, along with the awarded environmental consultant charged with preparing the EIR, work closely with NCTD staff to ensure that all environmental impacts to rail infrastructure and operations are considered and analyzed, and that appropriate mitigation measures are proposed in order to address any negative impacts to rail transportation.

12-2 (cont.)

In addition, concurrent with and subsequent to the EIR phase, NCTD requests that CSLC staff work with NCTD to ensure that there is a complete and accurate understanding of any potential infrastructure and operation impacts. It is NCTD's goal to work with the CSLC, and with all other relevant partners, to help identify and support the implementation of appropriate solutions.

NCTD's recommendation are attached for your consideration. Please feel free to contact our Chief Planning Officer, Dahvia Lynch, at dlynch@nctd.org or at (760) 966-6654, with any questions or comments.

Sincerely,

Dahvia Lynch
Chief of Planning

cc: Michael Albanese, Senior Director Projects, Amtrak
Walter Smith, BNSF
Jennifer Bergener, Managing Director, LOSSAN
Gary Lettengarver, Interim Chief Operating Officer, Metrolink
Linda Culp, Principal Planner, SANDAG
Muggs Stoll, Director of Land Use and Transportation Planning, SANDAG

ATTACHMENT A

NCTD Comments on SONGS Decommissioning EIR Issue Areas

The EIR and subsequent studies need to analyze any impacts caused by decommissioning activities that could include, but are not limited to impact:

Transportation/Traffic

The project proposes to "install, modify, or upgrade rail infrastructure" during Phase 1 (NOP page 11). However, there is no mention of impacts to rail traffic in this section of the NOP. Because the LOSSAN Rail Corridor is the second busiest passenger rail corridor in the nation, as well as serving as a key freight transportation corridor, it is important to study impacts to transportation and traffic that would be caused by any rail operations or infrastructure challenges due to the SONGS decommissioning. Potential impacts to train operations and infrastructure is an area of potential significant impacts that should be analyzed in the EIR under the "Transportation" issue area, and for which appropriate mitigation measures should be identified.

Below are additional comments related specifically to rail operations and infrastructure that should be considered and analyzed under the Transportation/Traffic issue area.

12-1 (cont.)

Rail Infrastructure

In general, the following should be considered and analyzed in the EIR:

- Any decommissioning activity that could potentially require track/rail infrastructure improvements or modifications on or off-site;
- Impacts to NCTD tracks and rail infrastructure caused by wear and tear due to the movement of SONGS materials onto and off of the site;

In addition, as part of the overall LOSSAN Rail Corridor, there are several capital construction projects planned to extend the double track capacity of the railroad around the SONGS facility as part of the "Full Build" phase through 2030. This railroad construction may be affected by the SONGS facility decommissioning work through 2051 and impacts should be considered in the EIR related to:

- Extension of the double track north from control point (CP) SONGS to a new CP "Trestles";
- Addition of a new CP south of existing CP SONGS to allow improved maintenance access to the tracks.

Rail Operations

Although NCTD does not typically run northbound passenger trains from its Oceanside Transit Center (OTC) or its Stewart Mesa Maintenance Facility due to its current routes running from OTC southbound to Santa Fe Station in San Diego, there are multiple southbound passenger trains originating from the north and operated by Amtrak and Metrolink. Train scheduling, operations and maintenance requires orchestrated efforts between multiple agencies, operators and jurisdictions. Therefore, the preparer of the EIR along with the project proponents need to consider the following impacts and possible mitigation measures:

- Track time required for the movement of materials onto and off of the SONGS facilities that would impact railway operations and maintenance. This could potentially impact other surface transportation such as highway congestion since there is no alternative rail route serving rail passengers between San Diego and outlying areas;
- Any decommissioning activity that could potentially require the shut-down of the corridor or alteration of existing schedules to accommodate movement of materials being transported on the right-of-way (this consideration should also account for other modes of public transportation such as bus, as the Interstate 5 Freeway provides a means for mass transit to navigate between San Diego and Orange counties);
- Potential impacts to operations and train traffic along the LOSSAN Rail Corridor. NCTD and SANDAG are undergoing an extensive capital improvement program along the San Diego Subdivision of this corridor including adding double track, replacing bridges, and other infrastructure. This effort will support the ability to nearly double rail service frequencies by the year 2030. In the interim, COASTER service will dramatically increase. Freight demand is also anticipated to increase. Any traffic from the SONGS facility will need to be managed in light of this additional passenger and freight activity;

Railroad Spur Onsite/Onsite Rail Yard

- Any impacts to railroad operations and maintenance-of-way that would occur due to any expansion and/or alteration to the existing railroad spur currently servicing SONGS;
- Any impacts to railroad operations and maintenance-of-way that would occur due to the creation of railroad car storage yard at SONGS, to include Positive Train Control (PTC);

12-1 (cont.)

Other CEQA Issue Areas

Air Quality

- Potential exposure of air pollutants to passengers and train operators to include but not limited to PM_{10} and $PM_{2.5}$ radioactive gasses/materials, etc., caused by decommissioning activities; **12-2**

Biological Resources

- Impacts to any NCTD environmental mitigation sites in proximity of the SONGS facilities must be identified and analyzed. Impacts may be due to the need for expanded infrastructure, wide loads or materials containment issues (NCTD has multiple sites along the railway which are in varying states of restoration or protection);
- Avoidance of potential inadvertent creation of habitats that would hinder the operations and/ or maintenance of the railroad right-of-way; **12-3**

Hazards/Hazardous Materials

- Safety to passengers/operators (both rail and bus) due to any hazardous materials incident within, or in close proximity to, the SONGS facility;
- Impacts/hazards to the rail corridor or track caused by the removal of multiple overhead powerlines that currently enter into the SONGS facility;
- Potential for any vehicles or decommissioning operations/activities to foul tracks (placement of a person or equipment near a track where the person or equipment could be struck or impacted by a moving train or on-track equipment);
- Impacts to schedules and operations due to any hazardous materials incidents caused by decommissioning activities;
- Impacts to operations due to the transport/handling of hazardous and/or radioactive materials on the right-of-way;
- Any decommissioning activity that could potentially require the shut-down of the corridor caused by hazards/hazardous materials being transported on the right-of-way; **12-4**

Hydrology/Water Quality

- Impacts to any existing facility or drainage covered by NCTD's Municipal Separate Stormwater Sewer System (MS4) permit, or other water quality-related permit within NCTD's right-of-way, or any condition that may impact NCTD's ability to meet all federal and state water quality requirements. NCTD is currently in the process of taking control of several miles of bio-swales and culverts as part of double-tracking projects in close proximity to the SONGS decommissioning project. **12-5**

Careful consideration needs to be made to ensure that NCTD's efforts are not affected by the SONGS project;

- Consideration for drainage patterns and hydrological features needs to be made to ensure minimal impacts to railway operations and other environmental factors;

12-5 (cont.)

Land Use/ Right of Way

- Potential impacts to NCTD right of way must be considered and addressed. Please coordinate with NCTD to obtain Right of Entry Permits and/ or other required permits prior to any activity on or adjacent to NCTD right of way.

12-6

Comment Set 13

PALA TRIBAL HISTORIC PRESERVATION OFFICE

PMB 50, 35008 Pala Temecula Road
Pala, CA 92059
760-891-3510 Office | 760-742-3189 Fax

PALA THPO

July 27, 2016

Jennifer Lucchesi
California State Lands Commission
100 Howe Ave, Suite 100- South
Sacramento, CA 95825

Re: San Onofre Nuclear Generating Station Units 2 & 3 Post shutdown Decommissioning Project

Dear Mrs. Lucchesi:

The Pala Band of Mission Indians Tribal Historic Preservation Office has received your notification of the project referenced above. This letter constitutes our response on behalf of Robert Smith, Tribal Chairman.

We have consulted our maps and determined that the project as described is not within the boundaries of the recognized Pala Indian Reservation. It is, however, within the boundaries of the territory that the tribe considers its Traditional Use Area (TUA). Therefore, we request to be kept in the information loop as the project progresses and would appreciate being maintained on the receiving list for project updates, reports of investigations, and/or any documentation that might be generated regarding previously reported or newly discovered sites. Further, recommend archaeological monitoring given the proximity of known cultural and historic resources. If the project boundaries are modified to extend beyond the currently proposed limits, we request updated information and the opportunity to respond to your changes.

13-1

We appreciate involvement with your initiative and look forward to working with you on future efforts. If you have questions or need additional information, please do not hesitate to contact me by telephone at 760-891-3515 or by e-mail at sgaughen@palatribe.com.

Sincerely,

Shasta C. Gaughen, Ph.D.
Tribal Historic Preservation Officer
Pala Band of Mission Indians

ATTENTION: THE PALA TRIBAL HISTORIC PRESERVATION OFFICE IS RESPONSIBLE FOR ALL REQUESTS FOR CONSULTATION. PLEASE ADDRESS CORRESPONDENCE TO **SHASTA C. GAUGHEN** AT THE ABOVE ADDRESS. IT IS NOT NECESSARY TO ALSO SEND NOTICES TO PALA TRIBAL CHAIRMAN ROBERT SMITH.

Consultation letter 2a

Comment Set 14

Herzog, Cynthia@SLC

From:	John Geesman <john@dicksongeesman.com>
Sent:	Sunday, August 14, 2016 12:25 PM
To:	Comments, CEQA@SLC
Cc:	Herzog, Cynthia@SLC
Subject:	SONGS Decommissioning NOP Comments
Attachments:	A.16-03-004 A4NR-SCE-001_ Q.8-Response.pdf

The Alliance for Nuclear Responsibility ("A4NR") submits the following brief comments regarding the scope of the State Lands Commission's contemplated Environmental Impact Report for the SONGS Units 2 and 3 Decommissioning Project. A4NR is troubled by some of the self-limiting language used in the Notice of Preparation ("NOP") that implies, perhaps inadvertently, embrace of the longstanding efforts by Southern California Edison ("SCE") and San Diego Gas & Electric ("SDG&E") to escape their pre-funded liability for removal of all subsurface structures and the offshore conduits, under the Navy Easement and Lease No. PRC 6785.1, respectively. The forthcoming EIR should explicitly recognize that SCE and SDG&E have billed ratepayers since 1988 for a decommissioning standard which incorporated full removal; that both utilities have declared decommissioning fully funded, including full removal of all subsurface structures and the offshore conduits; and that the California Public Utilities Commission ("CPUC") recently agreed in Decision 16-04-019 to cease ratepayer contributions to the related Nuclear Decommissioning Trusts based on those assurances. **14-1**

To its credit, the Navy has consistently rebuffed past SCE efforts to evade site restoration obligations under a guise of seeking to "clarify" the applicable requirement. The State Lands Commission should ensure that its EIR objectively assesses the effects on the physical environment of the full range of reasonable removal alternatives for all structures affected by the Navy Easement and Lease No. PRC 6785.1.

Additionally, despite the NOP's statement that the SONGS Unit 1 offshore conduits and appurtenances "were dispositioned in 2014," SCE recently acknowledged (in the attached document from CPUC proceeding A.16-03-004) a retained "liability" for potential removal of the Unit 1 offshore intake and discharge conduits. The forthcoming EIR should include this possibility in its environmental analyses. A4NR observes that in 2005 the State Lands Commission opted for partial removal as "environmentally preferable" to full removal of the Unit 1 offshore conduits, rejecting the "environmentally superior" artificial reef (supported by the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and California Department of Fish and Game) due to unspecified "design standards and liability concerns." A4NR recommends a considerably more robust evaluation of artificial reefs in the forthcoming EIR. **14-2**

Finally, the NOP appears to credulously accept SCE's and SDG&E's assumption that all spent nuclear fuel will be removed from the SONGS site by 2049. This premise appears infeasible in light of the acknowledgment in CPUC Decision 16-04-019 that it presumes national deliveries commence in 2024, while the federal government currently projects that a permanent repository will not open prior to 2048. The U.S. Court of Appeals for the District of Columbia Circuit has determined (in *National Ass'n of Regulatory Utility Comm'rs v. United States Dep't. of Energy* (2013) 736 F.3d 517) that reliance on an interim storage facility is precluded by federal statute. A4NR believes that the forthcoming EIR should evaluate the effects on the physical environment of spent nuclear fuel remaining at the SONGS site in perpetuity. **14-3**

Comment Set 14 (Attachment)

Southern California Edison
NDCTP 2015 A.16-03-004

DATA REQUEST SET A.16-03-004 A4NR-SCE-001

To: A4NR
Prepared by: Linda Anabtawi
Title: Senior Attorney
Dated: 05/19/2016

Question 8:

SCE-04 makes several references (e.g., p. 2, footnote, 3; page 3, lines 13 – 15; p. 10, lines 19 – 20; p. 13, Table IV-3, line 2; p. 14, line 16 – page 15, line 4) to SCE's retained "liability" for any required future removal of the offshore intake and discharge conduits. Please explain SCE's reasoning for why any potential "liability" can arguably remain after the 2005 amendment of Easement Lease P.R.C. No. 3193.1 with the California State Lands Commission

Response to Question 8:

SCE objects to the request on the ground that it is vague and ambiguous. SCE also objects to the request to the extent the request seeks privileged information. Subject to and without waiving these objections, SCE responds as follows:

The 2005 State Lands Commission lease amendment (PRC 3193.1) includes a provision that requires SCE to enter into a Lease Termination Agreement in order to terminate the lease and permanently disposition the facilities. According to Section 12 of the lease, this future agreement "will detail Lessee's obligations and responsibilities for any abandoned facilities, including but not limited to, Lessee's commitment to respond to any claims arising from the abandoned facilities; removal of any remaining facilities to the extent that they become a public safety hazard at any time in the future; and Lessee's obligation to provide sufficient financial assurance to guarantee faithful performance of the Lease Termination Agreement." This same language is carried forward into Section 2 (Paragraph 10) of the 2015 amendment of PRC 3193.1, which provides for an extension of the lease term until September 23, 2018 unless sooner terminated. Therefore, absent an agreement that provides for a release of liability, SCE remains liable in perpetuity for the abandoned facilities including the potential for full removal.

Thank you for the opportunity to comment.

John L. Geesman
DICKSON GEESMAN LLP
Attorney for Alliance for Nuclear Responsibility

Comment Set 15

Herzog, Cynthia@SLC

Subject: SONGS Decommissioning NOP Comments

From: Smith, Wade [mailto:SmithW2@amtrak.com]
Sent: Thursday, August 04, 2016 10:25 AM
To: Comments, CEQA@SLC
Subject: SONGS Decommissioning NOP Comments

Ms. Cynthia Herzog,

Please be aware that the National Railroad Passenger Corporation ("Amtrak") operates its Pacific Surfliner service along the LOSSAN corridor with frequent roundtrip service between San Diego and San Luis Obispo with multiple station stops in between, including San Clemente and Oceanside. Section 1.3 of the Notice suggests that "Decommissioned equipment and materials that are removed from the Immediate Project Area will be transported by rail or road." Amtrak requests that the EIR take into consideration potential impacts to its scheduled service, transportation routes, and station stops. Please include Amtrak in future communications related to this project. **15-1**

Thank you for you cooperation and assistance

Wade W. Smith
Amtrak Environment & Sustainability
Southwest Region
810 N. Alameda Street
Los Angeles, CA 90012
Office 213.683.6721
Mobile 213.219.9648

AMTRAK SUSTAINS
THE FUTURE RIDES WITH US

Comment Set 16

ORANGE COUNTY COASTKEEPER
3151 Airway Avenue, Suite F-110
Costa Mesa, CA 92626
Phone 714-850-1965
www.coastkeeper.org

August 11, 2016

Sent via email

Cynthia Herzog, Senior Environmental Scientist
California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825

RE: SCH No. 2016071025 CSLC EIR No. 784; W30209

Dear Ms. Herzog,

I am writing on behalf of Orange County Coastkeeper and as a member of the Community Engagement Panel organized by Southern California Edison (SCE) for the decommissioning of the San Onofre Nuclear Generating Station (SONGS). Orange County Coastkeeper (Coastkeeper) is a non-profit California corporation, formed in 1998, to protect and restore our natural water resources to ensure they are swimmable, drinkable, fishable and sustainable. Coastkeeper represents over eight thousand residents in the region.

In reviewing the Notice of Preparation of a Draft Environmental Impact Report, my comments will be confined to the offshore portion of the project, namely the intake and discharge conduits for generation units number 2 and number 3. Coastkeeper reluctantly supports SCE's request to allow the buried conduits to remain rather than being completely removed as per the current lease agreement with the State Lands Commission. However, if circumstances were such that the conduits were not buried, Coastkeeper would strongly support the complete removal of both conduits.

Coastkeeper supports the complete removal of ALL vertical structures extending from the conduits. The SCE request to remove only some of the vertical structures, while leaving the majority of the vertical structures, makes sense only if cost-cutting is the solitary goal. Coastkeeper believes that there is an impact from leaving these unnatural vertical structures for perpetuity.

Coastkeeper was involved, for over a decade, in the eventual adoption of state legislation changing how the deep-water oil platforms off the California coast are to be decommissioned. Rather than being completely removed, as was the previous agreement, platforms can be removed to a depth of eighty (80) feet below the water surface and the remaining structure can remain and operate as a high-value vertical artificial reef. This is only after a comprehensive EIR and a scientific validation that the structure is a high-value productive reef. This is an over-simplification describing how the legislation will work to decommission deep-water oil platforms. Another major factor in the legislation is the owners/operators of oil platforms must have an actuarial study to determine the amount of money that is being saved by the platform owners. Fifty percent (50%) of that savings must be paid to the State of California and go towards coastal restoration projects. The "Rigs to Reefs" legislation provides for shallow-water platforms (approximately three hundred (300) feet in depth) not to qualify for the program as they cannot qualify as being a high-value productive reef. In that case, they must be completely removed.

16-1

I reference the "Rigs to Reef" legislation only to bring up two points. One, SCE's request to cut off only a small number of vertical structures and leave them where they fall is totally unacceptable. SCE wants to characterize these fallen concrete structures as "reefs" when, in reality, they are nothing more than subsurface construction debris. Sure, small organisms and algae will grow subsurface concrete, however, the fact remains that this is residual construction debris, certainly not a reef of any producing value. Two, Coastkeeper believes there should be mitigation fees assessed to SCE based on a percentage of the savings for the "gift" of cost savings by not having to remove both conduits.

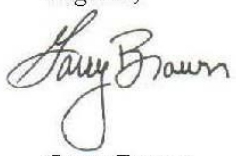
The California Coastal Conservancy, a state agency, funds coastal restoration and wetlands projects along the entire California coast. Mitigation fees forwarded to the Coastal Conservancy would ensure funds would be invested in the appropriate coastal projects for beneficial uses to the residents of California.

16-1 (cont.)

SCE will use the argument that this is ratepayer money and therefore, mitigation fees would be an unnecessary burden on ratepayers. However, the fact is that ratepayers have been paying for energy produced from SONGS and for the decommissioning of SONGS for decades. Ratepayers will continue to pay for SONGS extended costs as a result of the failure to have a national repository for spent fuel. Whether or not SCE expends funds to remove the vertical conduit structures and is assessed mitigation fees or not, the ratepayer will never get a refund of such a benefit.

We appreciate the opportunity to comment on this Notice of Preparation of a Draft Environmental Impact Report. Please consider the issues we raised and develop your recommendations for the benefit of the residents of California.

Regards,



Garry Brown,
Founder and President
Orange County Coastkeeper

Comment Set 17

PUBLIC WATCHDOGS
7918 El Cajon Blvd., Suite N #324,
La Mesa, CA 91942
Langley@publicwatchdogs.org
www.publicwatchdogs.org
(858) 752-4600

August 15, 2016

California State Lands Commission
100 Howe Ave., Suite 100-South
Sacramento CA 95825-88202

Attention: Cynthia Herzog, Senior Environment Scientist

RE: Draft Environmental Impact Report San Onofre Nuclear Generating Station Units 2 & 3 Post-Shutdown Decommissioning Project

File Ref: SCH No.2016071025
CSLC EIR No. 784; W30209

Dear Ms. Herzog:

California Environmental Quality Act (CEQA) guidelines require that the California State Lands Commission (CSLC) develop an Environmental Impact Report and evaluate a "No Project Alternative." Under specific circumstances, CLSC may designate an environmentally superior alternative. Therefore, Public Watchdogs recommends that CSLC reject a permit renewal for the applicant and to select the "No Project" option in its Environmental Impact Report (EIR). **17-1**

Here are seven compelling reasons to issue a "No Project" status to Southern California Edison:

1) The Coastal Commission Permit was issued unlawfully.

The California Lands Commission is the lead agency under CEQA. Therefore the California Coastal Commission is not authorized to independently issue or extend a permit to bury toxic radioactive waste at San Onofre State Beach Park without prior approval from the lead agency. **17-2**

We respectfully suggest that the Commission is required to exercise its leadership responsibilities. It must not abdicate its responsibilities to subordinate agencies. Nor should it enable a subordinate agency to circumvent established public policy.

2) NRC Guidelines support a "No Project" finding.

Because the Nuclear Regulatory Commission (NRC) has exclusive jurisdiction over radiological aspects of the proposed project, and because NRC Guidelines supersede **17-3**

CEQA, the California State Lands Commission is required to defer to the NRC as outlined in the project description:

> "Decommissioning involves removing the spent fuel (the fuel that has been in the reactor vessel), dismantling any systems or components containing activation products (such as the reactor vessel and primary loop), and cleaning up or dismantling contaminated materials from the facility. **All activated materials generally have to be removed from the site and shipped to a waste processing, storage, or disposal facility."**

17-3 (cont.)

The NRC and Southern California Edison have failed to conduct due diligence in establishing an offsite "waste processing, storage or disposal facility." Instead, it is attempting to force the CLSC to turn the beach at San Onofre into a nuclear waste "storage or disposal facility." The CSLC has the power to prevent this by denying the permit on the grounds that less risky locations with fewer environmental impacts are available, and to compel Southern California Edison to identify those superior alternatives. The CSLC can accomplish this objective by issuing a "no project" finding as supported by the NRC guidelines, which require removal of waste to a waste processing storage or disposal facility.

3) The CSLC may not exclude an Independent Spent Fuel Storage Installation from an Environmental Impact Report (EIR).

Avoiding a CEQA Environmental Impact Report on the grounds of an NRC preemption is a violation of California Law.

The commission has signaled that its EIR will ignore the environmental impact of the "Independent Spent Fuel Storage Installation" (ISFSI). The commission's draft EIR Project Description, Phase One, states "With the exception of the ISFSI the bulk of the radiological decontamination would occur during Phase One." This is akin to saying "With the exception of the deadly radiation in the dump, there will be no deadly radiation, therefore an EIR is not necessary."

17-4

We respectfully disagree. The fact that deadly radioactive waste is being stored at San Onofre demands an Environmental Impact Report. The fact that there may be a Federal preemption against the State "regulating" the waste is a separate issue. There are no Federal rules preventing an EIR from being developed.

4) An EIR is not subject to NRC regulations: it is <u>required</u> to evaluate *environmental impacts*.

State law demands that the CSLC develop an Environmental Impact Report. In an EIR, there can be no exceptions. Each of the 75 or more "dry casks" at the ISFSI (radioactive waste dump) will contain more radiation than what was released at Chernobyl. Even the smallest crack, human error, cask drop, or terrorist attack would significantly impact air

17-5

and water quality. It is irrelevant whether or not the commission has jurisdiction over this toxic waste because of NRC preemptions. It is obligated by law to consider all negative impacts that encompass our environment.

17-5 (cont.)

To do otherwise is to allow Southern California Edison, the owner of the ISFSI nuclear waste dump, to censor CSLC work product on behalf of its investors. The law is meant to serve and protect the people, not Southern California Edison, and the people have a right to know the environmental impact and risks of these activities.

5) The "Potential Geologic Hazards" assessment must evaluate civilian radiation exposure and emergency response planning.

Section 3.2.5, Geology and Soils, requires an evaluation of threats to workers at the ISFSI (radioactive waste dump). We contend that this evaluation is insufficient and must also encompass all offsite emergency planning and response.

In the event of a radioactive release at the proposed San Onofre ISFSI (radioactive waste dump), the damages will have a permanent "incremental" effect on the surrounding land. Therefore, the CSLC must also evaluate the impact of a major disaster stemming from the unstable beachfront geology of the proposed nuclear waste dump. This evaluation must include a risk assessment of a worst case geological disaster stemming from tsunamis, earthquakes, erosion, saltwater corrosion, and terrorist attacks on public health.

17-6

6) A review of Emergency Planning Exemptions at SONGS is required.

Regarding Section 3.2.6 "Hazardous / Radiological Materials:" If the EIR is to address potential conditions that could result in radiological releases such as fires, explosions, or other conditions "hazardous to the public and the environment," it must also reevaluate the ability of local governments to respond to a life and environment-threatening radioactive release outside the limited boundaries of the SONGS facility. Although the NRC has some limited jurisdiction in this area, it does not prevent the commission from conducting an EIR in this area of concern.

17-7

7) The Commission's EIR must address planned dumping of waste into the ocean.

Section 3.2.7 "Hydrology Oceanography and Water Quality" makes no mention of Southern California Edison's confirmed intent to "dilute and discharge" its spent nuclear fuel pools into the Pacific Ocean and the effect of this deadly radiation on benthic and human life. Further, the public has a right to know how much toxic waste is being dumped and when, and what the effect of this radiation will be on the food chain. The current draft EIR ignores this vital environmental impact.

17-8

Section 3.31 of the Draft Environmental Report states an EIR is required to discuss the cumulative impacts of a project. The seven impacts identified in this letter represent the culmination of incremental effects that meets the definition of the "cumulative" impacts that are legally required for inclusion into an Environmental Impact Report. **17-9**

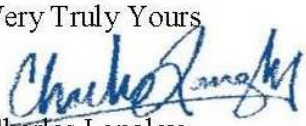
We therefore urge the CSLC to conduct an Environmental Impact Report of the proposed ISFSI radioactive waste dump, and to issue a "No Project" determination. We further submit that the CSLC, as the lead agency with controlling legal authority over the Coastal Commission, assert its authority over the approval process in compliance with California law. For a lead agency to abdicate its responsibilities to a subordinate agency, and to avoid enforcing California's requirements under CEQA is a shameful abdication of its responsibilities to the public in favor of a private corporation that is currently the subject of two separate criminal investigations.

Finally, to allow an NRC regulatory "preemption" to prevent a scholarly and realistic assessment of the cumulative environmental impacts as outlined in this letter, is to allow Southern California Edison to censor the California State Lands Commission for its own financial gain. **17-10**

Alternative sites: It is self evident that any location will be a superior environmental alternative to the current proposed location. The CLSC is required to explore such alternatives in its EIR, and to compel Southern California Edison to seek out those alternatives.

We reiterate: The NRC has zero legal authority to prevent the State of California from conducting an Environmental Impact Report on the effects of this proposed ISFSI radioactive waste dump on the environment and the people of California. What's more, it is legally required to conduct an EIR. To do otherwise is malfeasance. I remain,

Very Truly Yours



Charles Langley
Executive Director

P.S. We note with considerable alarm that the California State Lands Commission references "contaminated" materials in its draft EIR. We recommend that future CSLC documents clearly define these "contaminated materials" as "radioactive contaminated materials." Anything less is disingenuous, insults the intelligence of the reader, and serves the financial interests of Southern California Edison by concealing its artifice from the public.

Comment Set 18

Herzog, Cynthia@SLC

Subject: FW: CEQA for San Onofre
Attachments: CommentsToDOE-IPC-ConsentSiting2016-07-31.pdf; CommentsDocketNRC-2015-0070-0007Decom.pdf; SierraClubNRC-DecomComments2016-03-18.pdf; AllegationsCharts4Pages-19.pdf

-----Original Message-----
From: Donna Gilmore [mailto:dgilmore@cox.net]
Sent: Monday, August 15, 2016 4:58 PM
To: Oggins, Cy@SLC
Subject: CEQA for San Onofre

A full environmental review should be done without limiting scope and should assume the nuclear waste containers will be there indefinitely.
They should not be located so close to the ocean.

The nuclear waste containers will be there indefinitely. There is no commitment from the Department of Energy or anyone else to take these canisters, so no assumption should be made about a date they will be gone.

The canisters cannot be inspected or repaired. NRC regulations do not allow transport of canisters that are even partially cracked, yet they know these canisters are susceptible to cracking. **18 -1**

The NRC plans to allow Edison to destroy the spent fuel pools after they are empty, even though there is no other method on site to replace cracking canisters.

Southern California Edison has the worst safety complaint record from employees of all the nuclear plants in the country. They also have the highest rate of retaliation of employees. Please verify information from them rather than trusting the "facts" they provide.

See attached comments submitted to the Department of Energy and comments to the NRC for additional information and references. Please consider this information here and on these attachments in your evaluation. **18 -1 (cont.)**

Please feel free to contact me if you would like more information.

Thanks,

Donna Gilmore
SanOnofeSafety.org
949-204-7794

SIERRA CLUB

March 18, 2016

TO: Secretary, U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
ATTN: Rulemakings and Adjudications Staff
Rulemaking.Comments@nrc.gov

RE: Advanced Notice of Proposed Rulemaking (ANPR): Regulatory Improvements for Decommissioning Power Reactors, Docket ID NRC-2015-0070

It is now recognized by the NRC that highly irradiated spent nuclear fuel could remain at many reactor sites for the foreseeable future. As long as this highly radioactive material remains at a site, adequate precautions are needed to ensure safety and financial protection of both the public and the environment; whether the irradiated spent fuel is in pools or dry storage. The exemptions that have been granted to decommissioning sites do not ensure public or environmental safety and create an unnecessary financial burden. Stating there is less risk after reactor shutdown does not mean low risk and does not mean low consequences. On the contrary, risks and consequences are high.

Decommissioning, by definition, covers the entire process of dismantling and "cleaning up" a nuclear site. The NRC draft focuses mainly on irradiated spent fuel whereas it should cover the other aspects of site remediation, maintenance and release. Despite that glaring omission in the ANPR, we focus here on specific aspects of the high level waste/irradiated spent fuel issues.

RECOMMENDATIONS

Until nuclear irradiated spent fuel is removed from the site the following actions need to be taken:

- **Continue requirements for (and no exemptions from) on-site and off-site emergency planning**.
- **Require on-site and off-site continuous radiation monitoring and public reporting in real time**.
- **Retain experienced, trained and certified staff for all critical functions**.
- **Resolve current short-term aging management issues.** Existing dry storage used in the U.S. was not designed for even short-term storage (as defined by the NRC as up to 120 years). Canisters may start failing after 20 or 30 years from initial loading. We are close to the 30 year mark for some canisters, yet no solutions are in place. (See U.S. Nuclear Spent Fuel Storage Canisters/Casks loaded as of June 2013 *http://bit.ly/drycasks2013*). Both safety and funding need to be addressed, especially if the controversial use or misuse of decommissioning trust funds monies for irradiated spent fuel storage is allowed. Examples of critical issues:
  - **Thin-walled (1/2" to 5/8") stainless steel canisters used at most U.S. facilities cannot be inspected (even on the outside), repaired, maintained, or monitored prior to a radiation release, and are subject to cracking, with leaking occurring in as little as 16 years after crack initiation.**
  - **Thin canister interiors cannot be inspected, but may have short-term degradation.** Recent information from TEPCO in Japan shows the aluminum alloy baskets used in the casks may not last 60 years. Japan has discontinued using aluminum alloy baskets. This issue needs to be evaluated by the NRC to assess impact for U.S. storage. The majority of U.S. utilities use thin canisters with welded lids. NRC and the licensees must adequately address the condition of the baskets without destroying the canisters. How will this be accomplished? Are the U.S. aluminum alloy baskets subject to the same degradation? Where is the funding for replacement canisters and removal of the failed canisters and concrete overpacks?
- **Increase financial assurances**. Utilities should provide legally binding financial assurances that they can maintain and manage the irradiated spent fuel for as long as needed, including funding to recontainerize irradiated spent fuel assemblies as needed.
- **Require replacement plan and funding**. Current NRC exemptions have allowed trust fund money to be used without a plan in place for any replacement or repair needs for canisters or other mitigation.
- **Do not assume the DOE will pick up fuel by a certain date until an approved facility is built and approved for shipments.** There is no conservative basis to assume otherwise and the NRC's Continued Storage decision confirms this.
- **Retain irradiated spent fuel pool(s) even after emptied until an alternative means is identified to repair or replace dry storage canisters and failing fuel assemblies**. The alternative means should be specifically defined, funded, approved, and have provisions in place before pool(s) are destroyed. Currently, NRC requires pools for mitigation of canister or fuel failure for operating reactors, yet is allowing them to be destroyed without an adequate approved replacement plan in place or even funding for a plan at closed reactors. The option to repair thin canisters does not exist, so should not be considered a valid plan.
- **Meet transportation requirements.** NRC regulations prevent transport of canisters with even partial cracks. Without a pool there is no plan or funding in place that would address canisters that may be cracked or have some other condition that would prevent transport.
- **Meet DOE Standard Contract requirements.** DOE requires fuel retrievability at the fuel assembly level. This cannot be done without the pool and must be addressed in decommissioning and irradiated spent fuel management design and funding.
- **Increase state authority over the decommissioning process, irradiated spent fuel management and related funding.** Continuing to allow utilities to use large amounts of limited trust fund monies and make major decision without state oversight or even NRC oversight until after the fact is not regulating. It puts ratepayers and taxpayers at risk and limits or eliminates funds for potentially needed safety related items.

JUSTIFICATION

Explosion Risk

As stated by ACRS Chairman Dana A. Powers, in ACRS *Recommendations for Improvements to the NRC Staff's "Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants*," April 13, 2000, (*ML003704532*), p. 3, risk of an explosion exists with spent fuel assemblies exposed to air at any temperature:

> *Many metal hydrides are spontaneously combustible in air. Spontaneous combustion of zirconium-hydrides would render moot the issue of "ignition" temperature that is the focus of the [NRC] staff analysis of air interactions with exposed cladding. The staff has neglected the issue of hydrides and suggested that uncertainties in the critical decay heat times and the critical temperatures can be found by sensitivity analyses. Sensitivity analyses with models lacking essential physics and chemistry would be of little use in determining the real uncertainties...spent fuel exposed to air at any temperature, particularly high burn-up fuel may result in an explosion. The majority of nuclear power plants use higher burn-up fuel.*

The ACRS letter referenced spent fuel pools. This issue has not been adequately addressed by the NRC.

Irradiated spent fuel in dry storage exposed to air from through-wall cracks is of similar concern as the following references show.

Damaged Spent Nuclear Fuel at U.S. DOE Facilities, Experience and Lessons Learned, INL, November 2005, INL/EXT-05-00760, page 4 & 5. *https://inldigitallibrary.inl.gov/sti/3396549.pdf*

> *The generation of high surface area uranium metal SNF fragments and uranium hydride necessitates additional measures during SNF drying, dry storage, and transportation because of the pyrophoric nature of these materials when exposed to air.*

The Explosive Characteristics of Titanium, Zirconium, Thorium, Uranium, and their Hydrides, Irving Hartman, et.al., U.S. Bureau of Mines, Report of Investigation 4835, U.S. Dept. of Interior, December 1951
https://sanonofresafety.files.wordpress.com/2014/12/4410914explosivezirconiumdivofmines.pdf

> *Even 5% oxygen in helium, can cause zirconium powder to ignite. Any mechanical or chemical process that reduces the [zirconium] cladding to turnings, chips, granules, or powders can generate a pyrophoric or flammability hazard.*

Dry Storage Safety Risks

The NRC justification to remove emergency planning and other critical resources after fuel is moved to dry storage is based on many assumptions that have proven to be wrong or have not been addressed. Key sources the NRC uses to support safe storage are disputed below.

Pilot Probability Risk Assessments (PRA's) in EPRI-1009691 and NUREG-1864 predict an extremely low risk of latent cancer fatalities to the public. Some of the critical PRA assumptions in these documents are invalid.

- **Invalid assumptions: Canisters will be fabricated and loaded correctly** as prescribed in the Holtec HI-STORM Final Safety Analysis Report.

  Canisters have been loaded incorrectly. For example, at Diablo Canyon, PG&E hired Holtec to perform loading over numerous loading periods. Over half of the canisters were loaded incorrectly (assemblies with longest cooling time were loaded on inner cask locations and those with shortest cooling times were loaded on outer cask locations). Since the canisters are welded shut, any degradation to the fuel cladding is unknown. This in spite of the Holtec's own technical specifications requiring triple checks at multiple points in the process (Event Number 51134 06/06/2015).

  Manufacturing problems have occurred. For example, at Monticello nuclear facility, numerous canister manufacturing issues were found by an NRC inspector. Xcel Energy was cited for this (*ML14156A023*). Canisters have not been remediated.

- **Invalid assumption: No materials degradation will occur.**

  Given that canisters will need to be stored on-site indefinitely and given there is evidence of even short-term risk of degradation and failure with materials and manufacturing, this is not a valid assumption.
  The existing thin wall (1/2" to 5/8" thick) stainless steel canister designs have been approved for an initial 20 years. In that approval, the NRC ignores aging issues, such as material degradation of the fuel cladding, concrete and metals, even though they know these are

short-term and long term aging issues. In the approval for the Holtec HI-STORM UMAX Canister Storage System the NRC states material degradation "is not an issue during the initial 20-year certification period, but instead, is an issue that would have to be addressed if a CoC holder requested renewal of the CoC for a period beyond the initial 20 years."

> *List of Approved Spent Fuel Storage Casks: Holtec International HI-STORM UMAX Canister Storage System, Certificate of Compliance No. 1040, Amendment No. 1 Direct Final Rule,* Federal Register Vol. 80, No. 173, pp 53691 – 53694, effective September 8, 2015 *http://www.gpo.gov/fdsys/pkg/FR-2015-09-08/pdf/2015-22053.pdf*

The NRC approved these canisters knowing they cannot be inspected for cracks or repaired, are subject to stress corrosion cracks, and once a crack initiates it can grow through the wall of the canister in as little as 16 years. The NRC has no approved plan in place to mitigate this and makes the problem worse by allowing empty irradiated spent fuel pools to be destroyed even though irradiated spent fuel is still stored on-site.

> *Public Meeting with Nuclear Energy Institute on Chloride Induced Stress Corrosion Cracking Regulatory Issue Resolution Protocol, August 5, 2014* (*ML14258A081* and *ML14258A082*)
>
> Director of Spent Fuel Management Division statement at California Coastal Commission hearing, October 6, 2015, confirming inspecting these canisters is "not a now thing". *https://youtu.be/QtFs9u5Z2CA*

Holtec canister President and CEO, Dr. Kris Singh, states even if you could find the crack, in the face of millions of curies of radiation being released, and find a way to robotically repair it, there is no adequate method to repair these canisters filled with spent nuclear fuel without introducing another area for cracking.

> Dr. Kris Singh, Southern California Edison Community Engagement Panel, October 14, *2015 https://youtu.be/euaFZt0YPi4* and
> *https://sanonofresafety.files.wordpress.com/2015/09/attachment-14-declaration-of-donna-gilmore.pdf*

According to the NRC, the Koeberg nuclear plant in South Africa had a comparable component crack and leak in only 17 years. The largest crack (0.61") was deeper than the thickness of most U.S. canisters (0.50"). It was located in a similar environment to San Onofre and Diablo Canyon, with on-shore winds, surf and frequent fog. These are some of the many known environmental factors for stress corrosion cracking.

> *Public Meeting with Nuclear Energy Institute on Chloride Induced Stress Corrosion Cracking Regulatory Issue Resolution Protocol, August 5, 2014* (ML14258A081 and ML14258A082)
> A Diablo Canyon canister was found by the Electric Power Research Institute (EPRI) to have all the conditions for cracking in a canister that had only been loaded with irradiated spent fuel assemblies for two years. See details and references on this report:
>
> *Diablo Canyon: conditions for stress corrosion cracking in 2 years,* Oct. 23, 2014
> *https://sanonofresafety.files.wordpress.com/2011/11/diablocanyonscc-2014-10-23.pdf*

NUREG/CR-7017 is another source the NRC uses to substantiate safe dry storage. However, the document does not substantiate safe dry storage. It addresses **spent fuel handling (SFH) human failure events (HFE)** and uses the following four primary sources of information for the core for developing and investigating this. All of these sources, except "Subject Matter Expert (SME) interviews, are already disputed above.

1. Subject Matter Expert (SME) interviews
2. NUREG-1864 Pilot dry cask PRA developed by the NRC
3. EPRI-1009691 Bolted storage cask PRA conducted by EPRI
4. Final Safety Evaluation Report for the Holtec International HI-STORM 100

NUREG/CR-7017 *Preliminary, Qualitative Human Reliability Analysis for Spent Fuel Handling*, SAND2010-8464P, Sandia National Laboratories, Jeffrey D. Brewer et.al. *http://pbadupws.nrc.gov/docs/ML1105/ML110590883.pdf*

NUREG/CR-7017 actually challenges assumptions made in those previously discussed reports that the NRC uses to claim safe dry storage.

Page 3-3 Storage (comments on NUREG-1864)

No attempt was made to determine the frequency or manner in which fuel mis-loading might occur…Interestingly, with respect to the fuel assemblies themselves, if the expected age of spent fuel (5 years cooling in SFP) were loaded, simply blocking the vents on the cask is expected to cause 20% of the assemblies to exceed their long-term failure temperature level of 742 º Fahrenheit (i.e., they would likely fail due to creep rupture). This situation, although not expected to challenge the MPC, may pose serious problems during future movement and handling of the casks.

Page 3-4 (comments on NUREG-1864)

Additional evidence gathered later has cast doubts on the assertions of minuscule public and environmental risks from SFH activities. Given the vast number of human-performed SFH activities, increased doubts about the magnitude of risk greatly increase the importance of conducting more detailed HRAs.

Page 7-2 Visual Challenges

As mentioned above, visual cues are primary in performing fuel spent operations. In many cases, it is difficult to properly observe these cues because of the position of personnel in relation to the activities they are observing. Operations within the SFP can be particularly challenging; the refraction in the water and reflection from the water's surface can distort the view of operations that require precise positioning. Observing signs of damage to individual fuel pins within a cask or canister may be severely hampered by structural elements. Finally, in many cases, by its very nature and location, the action must be viewed from a distance. In such cases, personnel can miss small deviations that could possibly lead to significant problems simply because they do not have sufficient visual resolution to detect the error.

Page C-22 Subject Matter Expert (SME) interviews

***SME11** – fuel that's around 5kW would be at about 90 degrees Fahrenheit around 15kW – it would start burning hand; 33 MW/day (high-burn-up) you might see temps up around 300 degrees C; to date we haven't seen any really hot casks.*

***SME12** – related to mis-loading, temperature is not a good indicator for wrong fuel loading. [Temperature is the only continuous monitoring used for welded thin canisters]*

***SME11** – the utilities are good about capturing unusual things in their corrective action system; the inspectors can look into all the incidents that have happened with a crane. We could take a look when we are onsite at a plant. The plants don't like to let the Corrective Action Program documentation leave the plant site with NRC personnel, since it will then be accessible to others via the freedom of information act (FOIA).*

As long as the highly radioactive nuclear irradiated spent fuel remains at a site, the NRC should require adequate precautions to ensure safety and financial protection of both the public and the environment, whether in irradiated spent fuel pools or dry storage. The above issues should be addressed before moving forward with any new decommissioning regulations and before any further exemptions are granted that fail to adequately address these issues. Existing exemptions should be reevaluated to address the above issues. Too much is at risk to do otherwise. With each of these canisters and casks holding about as much Cesium-137 as was released at Chernobyl, we cannot afford to ignore these issues.

Sincerely,

Susan Corbett
Sierra Club
reindeargirl@gmail.com
803-609-6343

July 31, 2016

TO: U.S. Department of Energy
Office of Nuclear Energy, Response to IPC
1000 Independence Ave SW.
Washington, DC 20585
consentbasedsiting@hq.doe.gov

FR: Donna Gilmore
SanOnofreSafety.org
San Clemente, CA
dgilmore@cox.net
949-204-7794

RE: Response to IPC – DOE's CIS Nuclear Waste Plan Risks Major Radioactive Leaks

It is premature to focus on "consent" criteria until urgent critical legal and safety issues are resolved. No "informed" community would accept DOE's current Consolidated Interim Storage (CIS) pilot plan if they knew the plan included unsafe transport and storage of highly irradiated spent nuclear fuel in canisters that do not meet current Nuclear Waste Policy Act (NWPA) requirements.

U.S. dry storage thin steel canister systems cannot be inspected, maintained, repaired, adequately monitored to avoid radioactive leaks, and the DOE pilot plan has no plan for replacing failing canisters or retrieval of fuel, as required by NWPA.

The DOE consent meetings did not disclose the major safety flaws in their proposed CIS plan and there are no public hearings scheduled regarding the pilot plan in spite of numerous public concerns about storage and transport issues. Instead, the DOE booklet distributed at these meetings and on the DOE website implies all U.S. nuclear waste is safely stored.

The DOE should advocate for and demand utility licensees comply with NWPA safety requirements and should not accept lower safety standards. Any proposed legislation that reduces safety requirements should be actively opposed by the DOE. The Nuclear Regulatory Commission (NRC) has approved canisters for short-term storage that do not to meet many NWPA DOE requirements. The following are examples of NWPA legal and safety requirements that the NRC and DOE CIS pilot plan do not comply with:

- provide continuous monitoring, management, and maintenance of spent fuel and waste for the foreseeable future [including short-term storage];
- minimize the impacts of transportation and handling of such fuel and waste;
- provide for public confidence in the ability of such system to safely dispose of the fuel and waste;
- impose minimal adverse effects on the local community and the local environment;
- provide a high probability that the facility will meet applicable environmental, health, and safety requirements in a timely fashion.

NWPA Subtitle C Monitored Retrievable Storage, Section 141(b)(1) and Section 144
http://energy.gov/sites/prod/files/edg/media/nwpa_2004.pdf

It is an unnecessary major safety risk to transport and store waste at a consolidated interim storage site, especially with the heavy U.S. use of high burnup fuel that can cause the Zirconium cladding to become brittle and shatter like glass. The issue of whether just train vibrations can cause this is still being studied. Interim storage can best be accomplished through the safest dry storage of spent fuel at the site of generation, except that when there is a clear and present danger, spent fuel should be transferred to a nearby more stable site, possibly another reactor site, for storage. This complies with the NWPA requirement to *minimize the impacts of transportation and handling of such fuel and waste.*

The NRC approves high burnup fuel based on how it performs in the reactor without considering the impacts of how it performs in storage or transport. The DOE should take an active role in finding a way to prevent this practice. Since the DOE and the public pay the consequences for NRC action, it's up to both of us to advocate for improved safety standards at the NRC that comply with NWPA.

All dry storage systems must provide storage in a manner and location that is as safe as possible to prevent radioactive leaks in both short and long term storage. This requires a system that provides defense in depth, is fully inspectable, maintainable, repairable and not subject to critical degradation (such as corrosion and cracking). It must provide a continuous early warning monitoring system that warns prior to a radiation release and have a plan in place for safely retrieving and monitoring spent fuel without destroying the containers. Emergency Planning should be provided and funded, including public access to continuous radiation monitoring. The proposed DOE pilot system does not meet any of these requirements. The NRC only requires quarterly radiation monitoring. The DOE must do better to meet NWPA requirements.

Most U.S. commercial independent spent fuel storage installations (ISFSI) do **not** meet the above safety requirements. The NRC acknowledges the over 2000 U.S. thin-walled (mostly ½" thick) steel spent nuclear fuel dry storage canisters cannot be inspected (even on the outside), so no one knows the condition of the canisters, fuel or internal critical parts (such as the fuel storage baskets). They cannot be repaired and maintained and have no continuous or other early-warning monitoring system prior to radioactive leaks.

According to DOE inventory data, most of these thin-walled canisters have been in use less than 10 years. The NRC states leaks can happen 16 years after cracks start. They state the Koeberg nuclear plant had a similar component (a waste water tank) leak in only 17 years. The Koeberg tank cracks were deeper than the thickness of most U.S. thin-wall canisters (0.61" vs. 0.50"). Holtec president, Dr. Kris Singh, one of the major manufacturers of these thin-wall canister systems, admits even if you could find the cracks, even a microscopic through-wall crack will releases millions of curies of radioactivity into the environment, and even if it was possible to repair them, this would introduce a rough area for future cracking.

The Nuclear Regulatory Commission (NRC) approved most of these facilities and containers for 20 years by ignoring aging management issues that may occur after 20 years and by ignoring NWPA DOE Monitored Retrievable Storage requirements. The NRC has approved a few license renewals in spite of the following unresolved critical problems in the thin-walled (mostly ½" thick) welded stainless steel canister systems.

- **CANNOT BE MAINTAINED:** canisters cannot be inspected (inside or out), repaired or maintained. Fuel and interior critical structures (such as fuel assembly storage baskets) cannot be inspected without destroying the canister, so it is not feasible to inspect them. No current on-site capabilities for replacing failing canisters or resolving problems with canisters or fuel. Canisters have been misloaded, but the NRC has not required inspection of contents.
- **SHORT-TERM RADIATION RISKS:** The NRC states canisters may leak after 16 years once a crack starts. The Koeberg waste water tank leaked in 17 years. A Sandia Lab analysis shows cracks can grow faster in hotter canisters (Attachment B). A Diablo Canyon canister has all the conditions for cracking in a 2-year old canister. No seismic evaluations are required for cracked canisters or degraded concrete storage overpacks. Each canister contains more radioactive Cesium-137 than released from Chernobyl.
- **UNSAFE FOR TRANSPORT:** Canisters are susceptible to undetected cracks that can continue to grow through the wall of the canister. Even partially cracked canisters are not approved for transport (NRC 10 CFR § 71.85). Zirconium clad fuel allowed to burned longer in reactors (high burnup fuel) is subject to embrittlement even after dry storage and may shatter like glass, especially during transport (with or without an accident).
- **NO CONTINUOUS MONITORING:** Canisters cannot be continuously monitored to prevent radioactive releases. Radiation monitoring is only required quarterly.

- **NO EMERGENCY PLANNING:** No off-site emergency planning required for nuclear waste storage installations. No publicly accessible, timely, or continuous radiation monitoring in spite of the above problems.

It is the DOE's responsibility to advocate for and enforce NWPA safety requirements, as required by the DOE Standard Contract. Most other countries have standardized on dry storage systems that meet NWPA and other safety requirements, so there is no good reason the U.S. cannot do the same. However, we need the DOE to play an active role to make this happen.

The DOE must demonstrate that the federal government can fund, transport, and manage nuclear waste without significant short-term or long-term radioactive leaks and demonstrate that the federal government can comply with existing nuclear waste laws, contracts and agreements. This is currently not the case. At the DOE consent-based meetings, the issue of lack of public trust of the DOE was a major issue acknowledged by the DOE. Enforcing instead of ignoring NWPA requirements may help the DOE build public trust.

The DOE *Integrated Waste Management Consent-Based Siting* booklet distributed at the DOE Consent-Based Siting meetings and on the DOE website implies the current U.S. dry storage systems are safe (page 21). Correcting this misinformation would be a good first step in improving public trust. *http://www.energy.gov/sites/prod/files/2016/05/f31/Booklet_16_05_17.pdf*

Other issues related to consent.

- **The federal government must guarantee sufficient funds** will be allocated for as long as the waste needs be transported and needs be stored -- up to 120 years for short-term storage (per NRC definition of short-term) and for long-term storage, which is basically forever. Communities impacted by a radioactive release need to be adequately financially compensated.
- **States and Tribal Nations must have legal authority** to set higher standards for such things as storage and transport containers, aging management and radiation exposure levels. States must have enforcement authority for nuclear waste stored in or near their communities based on potential radioactive contamination zones. They also must have adequate funding to administer and enforce these requirements.
- **The DOE must adequately address major transport infrastructure issues** affecting the safe transport of spent fuel through our communities.
- **Each state and locality must be legally authorized to establish its own criteria for standing and volunteer status**, and no further requirements may be set by the federal government except that any expression of interest must affirm that it is consistent with the requirements of Executive Order 12898 regarding Environmental Justice.

Until such time as these issues are resolved, no informed communities would agree to host spent nuclear fuel waste. The Governor of New Mexico April 10, 2015 letter to Energy Secretary Moniz supported consent. However, the letter stated the CIS site would use proven technology and a safe system, which is not true. This is not informed consent.

The DOE should discontinue expending resources on "consent". Instead, it is urgent the DOE take a leadership role in resolving the issues addressed in these comments. If you don't, who will? Each thin-walled steel canister contains about as much Cesium-137 as was released from Chernobyl and some of the existing canisters could start leaking in the near future with no plan in place to mitigate leaks.

See Attachments and SanOnofreSafety.org for references and additional information.

ATTACHMENT A – REFERENCES AND ADDITIONAL SUBSTANTIATION

REFERENCES AND ADDITIONAL SUBSTANTIATION

- **Thin-walled spent fuel canisters cannot be inspected and may leak 16 years after loaded.**

  The majority of current U.S. irradiated spent fuel storage facilities use thin-walled (mostly 1/2" thick) stainless steel canisters that the NRC acknowledges cannot currently be inspected or repaired and are vulnerable to cracking and leaking 16 years after a crack starts.

  Summary of August 5, 2014 Public Meeting with the Nuclear Energy Institute on Chloride-Induced Stress Corrosion Cracking Regulatory Issue Resolution Protocol.
  http://pbadupws.nrc.gov/docs/ML1425/ML14258A081.pdf

- **Partially cracked canisters are not approved for transport and cannot be repaired**

  Partially cracked canisters are not approved for transport (NRC regulation 10 CFR § 71.85). DOE inventory records show most of the U.S. thin-wall canisters have been in use less than 10 years. It is unknown if any of them have partial cracks, since they cannot be inspected.
  https://sanonofresafety.files.wordpress.com/2015/10/d32-caskinventoryisfsichartandtable2016-06-26.pdf

- **Storage containers must meet these requirements**

  Storage containers must be designed to be inspectable (inside and out), repairable, maintainable, not subject to structural cracks, and have continuous early-warning monitoring prior to radiation leaks. Sites must have provisions for replacing failing fuel or failing canisters, such as empty spent fuel pools.

  Storage container requirements must be based on meeting short and long term needs, rather than on how much money Congress is willing to allocate each year. The DOE's current recommendation is the latter (partially due to Congress redirecting existing funds that were designated for a permanent repository).

  Most other countries use thick-walled (about 10" to 20" thick) irradiated spent fuel storage casks that meet or exceed NWPA monitored retrievable storage requirements, such as Germany and Japan (including at Fukushima). Those countries also store their irradiated spent fuel containers in reinforced structures for additional environmental protection.

- **Radiation monitoring must be required**

  Near real-time radiation monitoring with public access should be required.

- **DOE must improve its performance**

  The DOE must demonstrate that the federal government can fund, transport, and manage nuclear waste without significant radioactive leaks and demonstrate that the federal government can comply with existing nuclear waste laws, contracts and agreements. They have not done this.

- **Funding inadequate**

  The federal government must guarantee sufficient funds will be allocated for as long as the waste needs be transported and needs be stored -- up to 120 years for short-term storage (per NRC definition of short-term) and for long-term storage, which is basically forever. Communities impacted by a radioactive release need to be adequately financially compensated.

ATTACHMENT A – Page 2

- **More State and Tribal Nation legal authority**

  States and Tribal Nations must have legal authority to set higher standards for such things as storage and transport containers, aging management and radiation exposure levels. States must have enforcement authority for nuclear waste stored in or near their communities based on potential radioactive contamination zones. They also must have adequate funding to administer and enforce these requirements.

  Each state and locality must be legally authorized to establish its own criteria for standing and volunteer status, and no further requirements may be set by the federal government except that any expression of interest must affirm that it is consistent with the requirements of Executive Order 12898 regarding Environmental Justice.

  States and communities currently have no legal rights to set higher standards for storage and transport and have no legal recourse for DOE mismanaged facilities or for DOE broken promises. The State of Idaho is one of the few states with a legal agreement, yet the DOE has not met the conditions of that contract. DOE's promise to remove nuclear waste from Idaho by 2035 appears to be a goal rather than a commitment.
  https://www.deq.idaho.gov/inl-oversight/oversight-agreements/1995-settlement-agreement/

- **Transport safety and funding issues unresolved**

  The DOE must address major transport infrastructure issues and the safety of transporting irradiated spent fuel through our communities. Communities must have on-line access to transport accident records and status of transport infrastructure for any potential routes used for transport. Some canisters may require up to 45 years of cooling before they meet Department of Transportation radiation limits (Attachment C – Transport).

- **Current DOE sites have radioactive leaks**

  Current DOE managed sites consistently have radioactive leaks into the environment from leaking or exploding inferior storage containers, such as Hanford in Washington, Savannah River Site in South Carolina, the Waste Isolation Pilot Project (WIPP) in New Mexico, Idaho National Lab and other sites.

  There is a pattern of selecting inferior containers that are not even sufficient for short-term storage – containers that cannot be inspected, monitored, repaired and maintained. In essence, these storage containers as designed will inevitably fail and leak radiation. The DOE must demonstrate they can resolve these issues before moving forward with any consent-based siting process.

- **DOE pilot project will inevitably fail with radioactive leaks**

  The proposed DOE irradiated spent fuel nuclear waste storage plan as designed will inevitably fail with highly radioactive leaks. It proposes transporting and storing existing thin-walled stainless steel canisters (1/2" to 5/8" thick) that cannot be inspected, repaired, maintained, have no early warning system prior to radioactive leaks, can corrode and crack, and can start leaking millions of curies of radioactivity after 20 years of storage, possibly sooner. A 2015 Sandia Lab report shows that once cracks start in hotter thin-walled stainless steel canisters, they can grow through the wall of the canister in less than 5 years (Attachment B - Sandia Chart).

  A failure of even one of these "Chernobyl" canisters could be catastrophic. There is potential for explosions, due to the unstable and pyrophoric nature of these materials when exposed to air. (*Damaged Spent Nuclear Fuel at U.S. DOE Facilities, Experience and Lessons Learned, INL,* Nov 2005 INL/EXT-05-00760, Page 4 & 5). *https://inldigitallibrary.inl.gov/sti/3396549.pdf*

ATTACHMENT A – Page 3

The DOE pilot design has no provisions to address these issues and provides no remediation for failing canisters. Most of the over 2000 U.S. thin-walled canisters have been in use less than 20 years, so we have not seen through-wall cracks yet. However, the DOE must address this issue in their plans. The NRC's initial 20-year dry storage container certification considers "out of scope" any problems that may occur after 20 years. In their relicensing the NRC aging management plan (NUREG-1927 Rev 1 Draft) requires canisters with 75% through-wall cracks be taken out of service. However, the method to accomplish this or even inspect and measure cracks does not exist for canisters filled with irradiated spent fuel.
http://pbadupws.nrc.gov/docs/ML1605/ML16053A199.html
NRC regulations do not allow the transportation of canisters with even partial cracks (10 CFR § 71.85 *Packaging and Transportation of Radioactive Materials*).

Neither the outside or inside structure of these thin-walled welded canisters can be inspected, let alone repaired. Other countries use thick-walled casks that do not have these problems.

Both the DOE and NRC have chosen to continue endorsing the inferior technology even though NRC Commissioners directed staff to "encourage the adoption of state of the art technology for storage and transportation". *Staff Requirements – COMDEK-09-0001 – Revisiting the Paradigm for Spent Fuel Storage and Transportation Regulatory Programs*, February 18, 2010
http://pbadupws.nrc.gov/docs/ML1004/ML100491511.pdf

NRC Director of Spent Fuel Management Division, Mark Lombard states **inspecting these canisters "is not a now thing"** *(https://youtu.be/QtFs9u5Z2CA).*

Dr. Kris Singh, Holtec thin-walled canister President, states that **even a microscopic crack will release millions of curies of radiation into the environment and that the canisters are not repairable**. *(https://youtu.be/euaFZt0YPi4).*

Canisters may need to stay on-site for up to 45 years before they are cool enough to meet Department of Transportation radiation dose requirements (Attachment – Transport).

- **Would you buy a car that could not be inspected?**

  Would you buy a car for your family that could not be inspected, maintained, and repaired and provided no warning before the engine or brakes failed? That is basically what you are asking our families to do with these thin-walled irradiated spent fuel storage canisters. The Delorean cars looked good until the stainless steel 304 alloy panels began corroding. This is the same material used in most of the over 2000 U.S. thin-walled stainless steel canisters. NRC material engineers state that operating experience with both 304 and 316 stainless steel alloys demonstrate these problems. Numerous environmental and other factors can initiate corrosion and cracking (e.g., corrosive salt particles and from sulfites in air pollution and vehicle exhaust).

Additional resources and information at SanOnofreSafety.org

ATTACHMENT B – Sandia Chart

Thin-walled stainless steel U.S. irradiated spent fuel storage canisters at higher temperatures will have faster crack growth rate. The Sandia Chart below shows higher temperatures can cause canisters to penetrate the wall in less than 5 years. This chart assumes canister wall is 0.625" (5/8") thick. The majority of the U.S. canisters are only 0.50" (1/2") thick. It is unknown when a crack will start, but these canisters are subject to corrosion and cracking from environmental conditions such as chloride salts, air pollution (sulfides), pitting, and microscopic scratches. The report states that canisters such as those at Diablo Canyon have temperatures in these heat ranges.

Draft Geologic Disposal Requirements Basis for STAD Specification, A. Ilgen, C. Bryan, and E. Hardin, Sandia National Laboratories, March 25, 2015, FCRD-NFST-2013-000723 SAND2015-2175R, PDF Page 36 & 46 *http://prod.sandia.gov/techlib/access-control.cgi/2015/152175r.pdf*

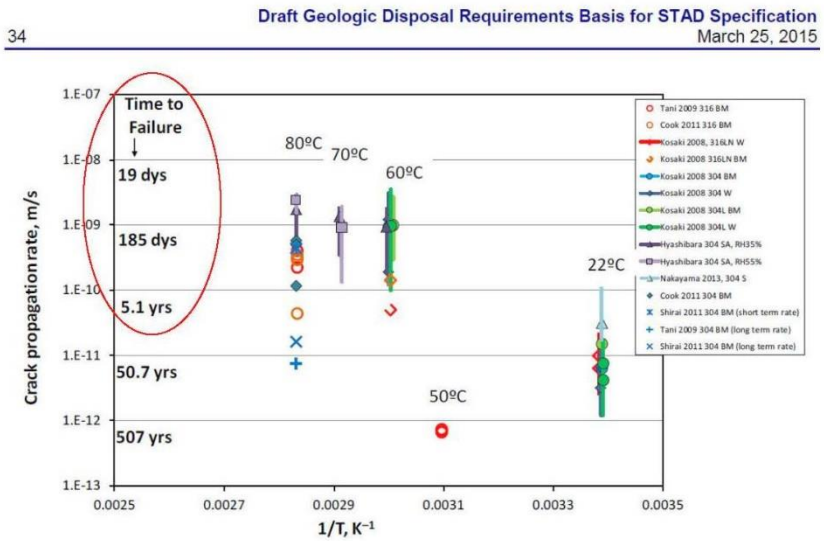


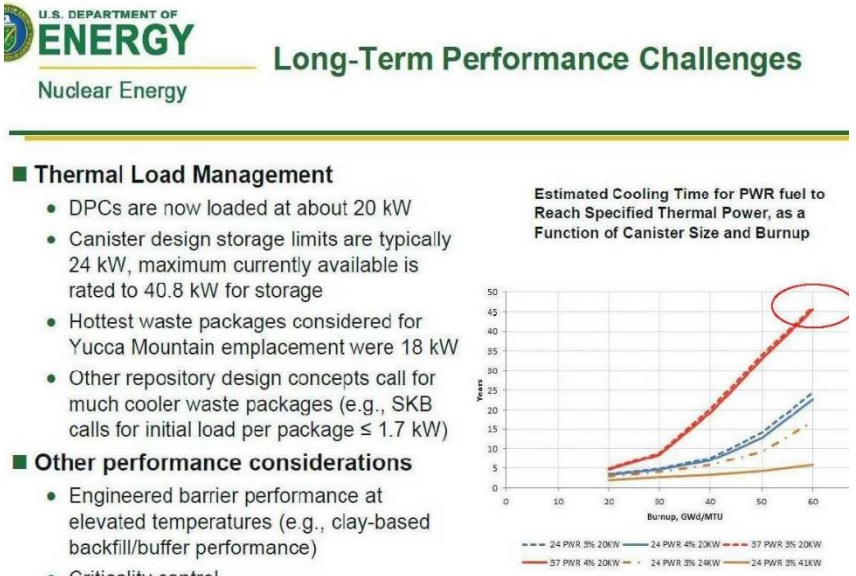
Figure E-5. SCC propagation rates for atmospheric corrosion of 304SS and 316SS. BM –base metal; W–weld sample; SA–solution annealed; S–sensitized. Bars represent reported ranges (if more than one), while symbols represent average values. Time to failure corresponds to the time required to penetrate a 0.625" thick canister wall.

ATTACHMENT C – Transport

Canisters with 37 spent fuel assemblies may require up to 45 years to cool (after removal from the reactor) before they are safe enough to transport (~20 kW) per Dept. of Transportation radiation limits.

Research and Development Activities Related to the Direct Disposal of Dual Purpose Canisters, William Boyle, Director, Office of Used Nuclear Fuel Disposition R&D (NE-53), U.S. Department of Energy, Nuclear Waste Technical Review Board Meeting, April 16, 2013 *http://www.nwtrb.gov/meetings/2013/april/boyle.pdf*

Safety Evaluation Report Docket No. 71-9302, NUHOMS-MP197HB, Certificate of Compliance No. 9302, Rev. 7, Page 14
http://pbadupws.nrc.gov/docs/ML1411/ML14114A132.pdf
Note: The only NRC approved high burnup transport cask is the NUHOMS MP197HB.



March 18, 2016

TO: Secretary, U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001 ATTN: Rulemakings and Adjudications Staff
Rulemaking.Comments@nrc.gov

FR: Donna Gilmore, SanOnofreSafety.org
dgilmore@cox.net

RE: Comments to Proposed Rulemaking (ANPR): Regulatory Improvements for Decommissioning Power Reactors, Docket ID NRC-2015-0070

In addition to the Sierra Club March 18, 2016 comments and recommendations to this proposed rulemaking, please address the following urgent issues.

- **After crack initiation, cracks may grow through the thin stainless steel canister wall in less than 5 years.**

  According to the March 25, 2015 Sandia National Laboratories document referenced below, once a crack starts in a thin spent fuel stainless steel canister it can grow through the canister wall in less than 5 years if temperatures are hotter, e.g., 60° degrees C (140° F) or above. See Sandia chart on PDF page 46. This chart assumes canister wall is 0.625" (5/8") thick. However, the majority of the U.S. canister walls are only 0.50" (1/2") thick.

  Draft Geologic Disposal Requirements Basis for STAD Specification, A. Ilgen, et.al, Sandia National Laboratories, March 25, 2015, FCRD-NFST-2013-000723 SAND2015-2175R
  http://prod.sandia.gov/techlib/access-control.cgi/2015/152175r.pdf

  Sandia Chart, page 46
  https://sanonofresafety.files.wordpress.com/2013/06/sccpropatationratessandiastad2015-03-25.jpg?w=640

  A 2-year old Diablo Canyon canister had measured temperatures range from 49°C (120°F) to 118°C (245°F). Calculated temperatures ranged from 60°C (140°F) to 105°C (221°F). Lid – measured temperatures ranged from 87°C (188°F) to 97°C (207°F).

  Update on In-Service Inspections of Stainless Steel Dry Storage Canisters, EPRI, January 28, 2014 *http://pbadupws.nrc.gov/docs/ML1405/ML14052A430.pdf*

- **Diablo Canyon canister has all the conditions for stress corrosion after only 2 years.**

  It is unknown when a crack will start, but thin canisters are subject to corrosion and cracking from environment conditions such as ocean salts (chlorides), air pollution (e.g., vehicle exhaust sulfides), pitting, and microscopic scratches. A Diablo Canyon canister was found to have all the conditions for chloride-induced stress corrosion cracking (SSC) in a two-year old canister.

  Diablo Canyon: conditions for stress corrosion cracking in 2 years, June 23, 2014
  https://sanonofresafety.files.wordpress.com/2011/11/diablocanyonscc-2014-10-23.pdf

- **A similar component at the Koeberg nuclear plant leaked after only 17 years.**

  The Koeberg nuclear plant in South Africa, located in a similar environment to San Onofre and Diablo Canyon, had a waste water tank (similar to a spent fuel canister) leak after 17 years with cracks up to 0.61" deep. The tanks maintained water between 7° and 40° C (45° and 104° F), so were much cooler than canisters filled with highly irradiated spent fuel.

  NRC Information Notice 2012-20. *Potential Chloride-Induced Stress Corrosion Cracking of Autenitic Stainless Steel and Maintenance of Dry Cask Storage System Canisters*, November 14, 2012
  http://pbadupws.nrc.gov/docs/ML1231/ML12319A440.pdf

- **DOE EIA inventory database shows, as of June 30, 2013, 1589 thin welded stainless steel canisters have been loaded with spent fuel and the numbers continue to grow.**

  Loading dates ranged from 1989 to 2013. Each one of these contains about as much Cesium-137 as released from Chernobyl, making the issues identified in these comments critical and time sensitive.

  U.S. Nuclear Spent Fuel Storage Canisters/Casks loaded as of June 2013
  https://sanonofresafety.files.wordpress.com/2016/01/d32-caskinventorydetailbyyearsloaded2016-03-14.pdf

- **The NRC should no longer allow spent fuel pools to be destroyed until another solution is in place to remediate failed canisters/casks and failed fuel and should address this issue in existing decommissioned sites that have no pools.**

  In 2002 the NRC approved destruction of Big Rock Point's spent fuel pool, removing the only means they had to replace or repair failed W74 thin (0.625") stainless steel canisters or fuel. The NRC approved alternative was to "return canister to transfer cask" and "return canister to repaired or replaced storage cask" within 270 days. To this day, this is not a possible solution. This is further evidence that the NRC needs to wait until a plan and capability is in place before allowing destruction of spent fuel pools. No more unsubstantiated hope, assuming a solution will appear "soon". It's time to learn lessons from the past.

  3. TS 3.3.2 and TS 3.3.3, changed required action "return canister to the fuel building and remove all assemblies" to "return canister to transfer cask", and added "return canister to repaired or replaced storage cask" within 270 days.

  Amendment No. 2 to Certificate of Compliance No. 1026 for the FuelSolutions Spent Fuel Management System, January 25, 2002
  http://pbadupws.nrc.gov/docs/ML0202/ML020250519.pdf

  NRC Safety Evaluation Report, Docket No. 72-1026, FuelSolutions Spent Fuel Management System Certificate of Compliance No. 1026, Amendment No. 2, January 25, 2002. *http://pbadupws.nrc.gov/docs/ML0202/ML020250586.pdf*

A thermal evaluation was also done in the 2002 NRC Safety Evaluation Report. Since transfer casks are not vented, hotter canisters that still need cooling would overheat if placed in a transfer cask for very long.

Both the Holtec vendor and the Areva vendor at Southern California Edison public meetings have suggested using a transfer or transport cask as a temporary means to deal with a leaking canister.

A San Diego Gas and Electric "expert" witness in a recent California Public Utilities Commission decommissioning proceeding also suggested storing a failed canister inside a thick cask. There is no NRC approved cask to do this and the heat issue makes this even a questionable short term solution. The NRC needs to address this issue for both existing and future decommissioned reactor facilities.

The DOE pilot proposal for a consolidated interim storage site has no pools, no dry transfer facility and no other method to remediate failed canisters/casks or fuel. They are relying on the NRC to continue to approve facilities without pools or any other method to remediate failed canisters or fuel. The NRC should not approve any facility that doesn't address this issue.

- **No canisters are approved for transport with even partial cracks.**

  The DOE pilot plan is to transport existing spent fuel canisters to an interim site. Having no solution to remediate cracks means no canisters can legally be transported to any other facility. And since there is no current technology that can inspect for cracks or repair cracks in canisters filled with spent nuclear fuel, a conservative assumption would be that they may all have partial cracks. Therefore, none of them can be moved. Thick-walled (10" to 20") bolted lid metal casks do not have these cracking issues. However, they may still need the pools to unload fuel into a smaller cask or to remediate failed fuel problems or problems with the baskets that keep the fuel assemblies in place and separated inside the casks.

- **Over 5000 damaged fuel assemblies as of June 2013**

  As of June 30, 2013, the DOE reports 5,208 U.S. damaged fuel assemblies. This increases the consequences of failing canisters.

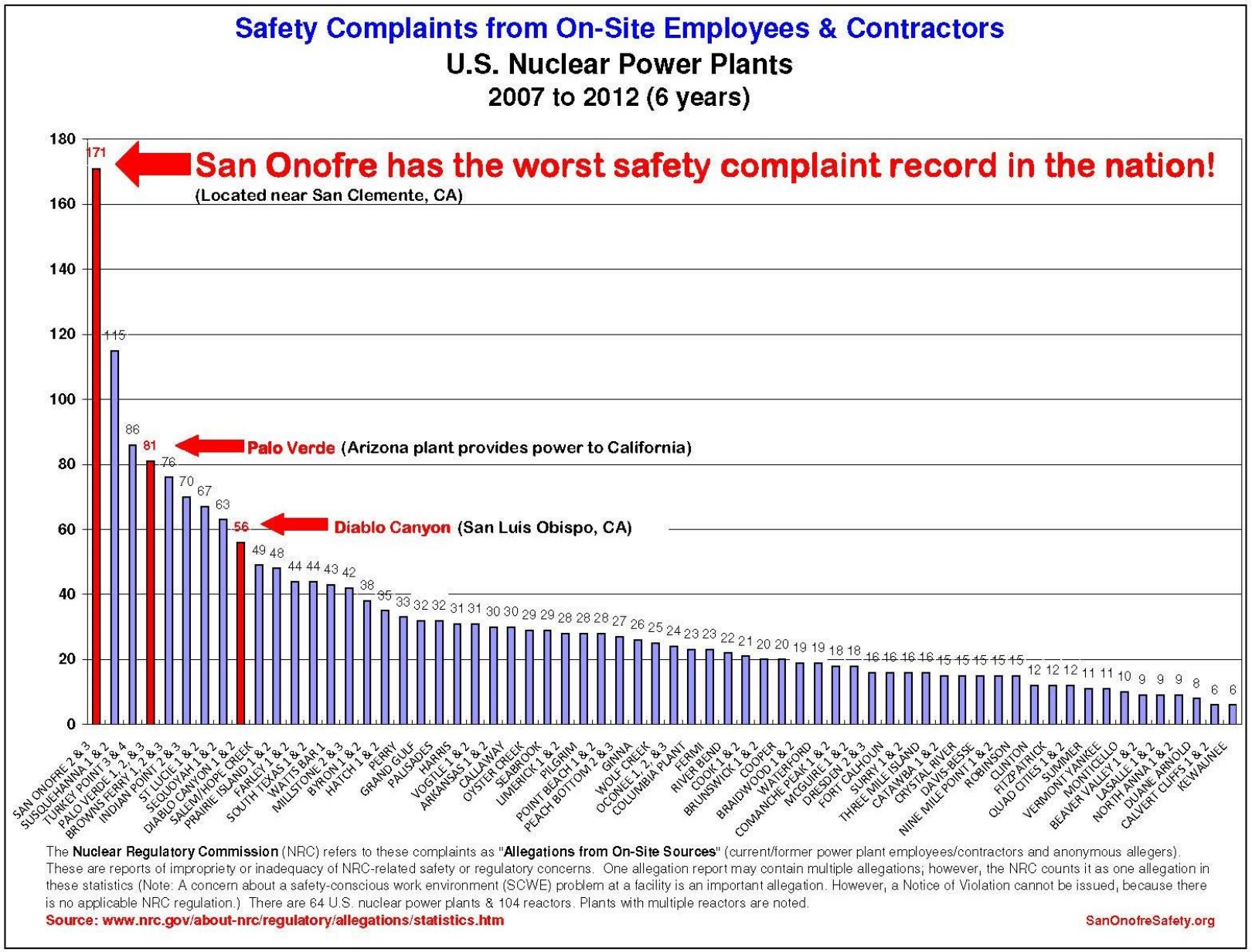
  U.S. Nuclear Power Reactor Damaged Spent Fuel Assemblies (June 2013)
  https://sanonofresafety.files.wordpress.com/2011/11/totaldamagedfuelassemblies2013june30.pdf

- **Cladding damage may occur with fuel burnup as low as 35 GWd/MTU.**

  This increased the likelihood and consequences of ailing canisters and fuel assemblies

  Evaluation of the Technical Basis for Extended Dry Storage and Transportation of Used Nuclear Fuel, NWTRB, December 2010, page 56
  http://www.nwtrb.gov/reports/eds_rpt.pdf

  NWTRB Burnup Chart
  https://sanonofresafety.files.wordpress.com/2013/06/higherburnupcladdingfailurechart1.jpg


Safety Complaints from On-Site Employees & Contractors
U.S. Nuclear Power Plants
2007 to 2012 (6 years)
San Onofre has the worst safety complaint record in the nation!
(Located near San Clemente, CA)
Palo Verde (Arizona plant provides power to California)
Diablo Canyon (San Luis Obispo, CA)
180
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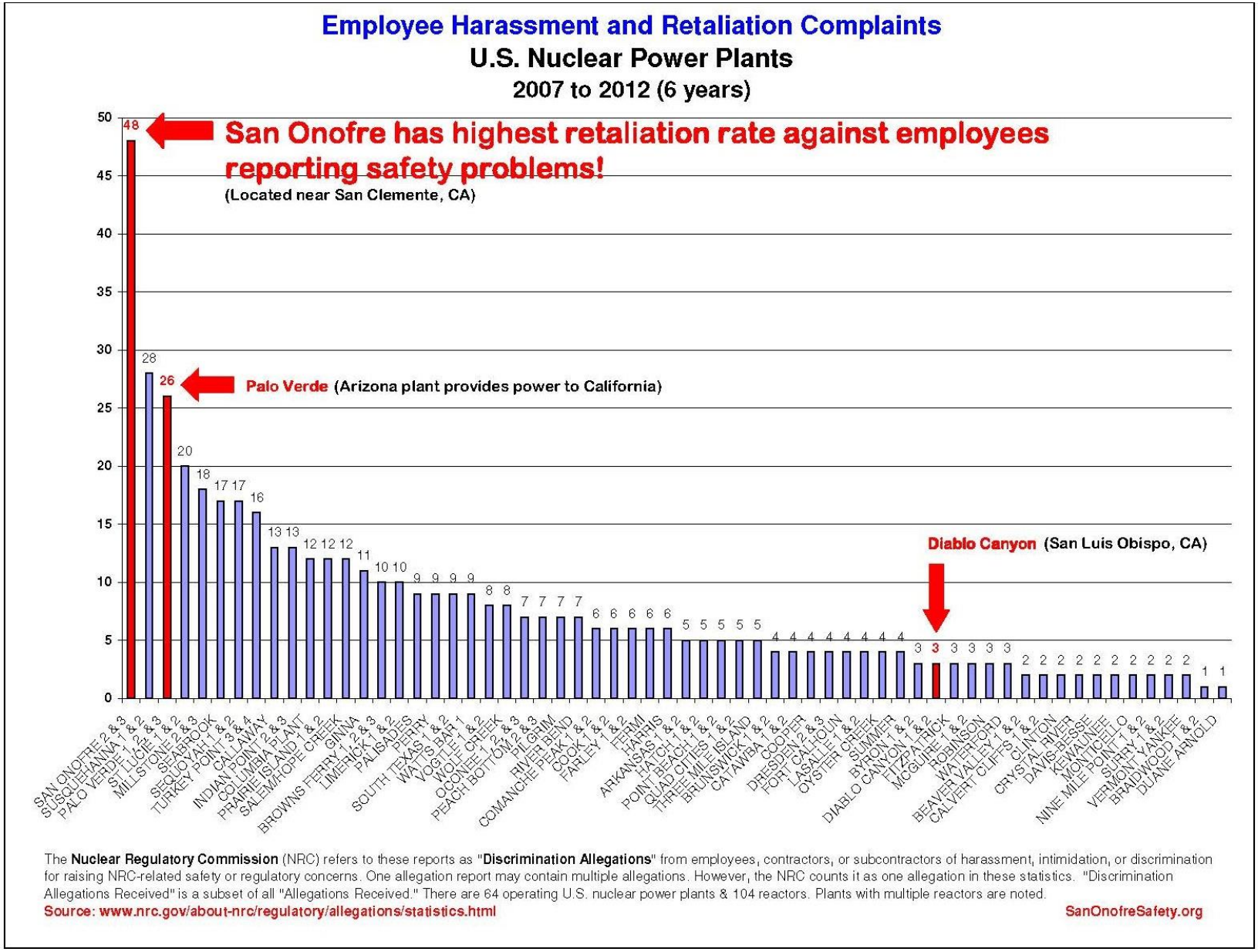
171 115 86 81 76 70 67 63 56 49 48 44 44 43 42 38 35 33 32 32 31 31 30 30 29 29 28 28 28 27 26 25 24 23 23 22 21 20 20 19 19 18 18 16 16 16 16 15 15 15 15 15 12 12 12 11 11 10 9 9 9 8 6 6
SAN ONOFRE 2 & 3
SUSQUEHANNA 1 & 2
TURKEY POINT 3 & 4
PALO VERDE 1, 2, & 3
BROWNS FERRY 1, 2 & 3
INDIAN POINT 2 & 3
ST LUCIE 1 & 2
SEQUOYAH 1 & 2
DIABLO CANYON 1 & 2
SALEM/HOPE CREEK
PRAIRIE ISLAND 1 & 2
FARLEY 1 & 2
SOUTH TEXAS 1 & 2
WATTS BAR 1
MILLSTONE 2 & 3
BYRON 1 & 2
HATCH 1 & 2
PERRY
GRAND GULF
PALISADES
HARRIS
VOGTLE 1 & 2
ARKANSAS 1 & 2
CALLAWAY
OYSTER CREEK
SEABROOK
LIMERICK 1 & 2
PILGRIM
POINT BEACH 1 & 2
PEACH BOTTOM 2 & 3
GINNA
WOLF CREEK
OCONEE 1, 2, & 3
COLUMBIA PLANT
FERMI
RIVER BEND
COOK 1 & 2
BRUNSWICK 1 & 2
COOPER
BRAIDWOOD 1 & 2
WATERFORD
COMANCHE PEAK 1 & 2
MCGUIRE 1 & 2
DRESDEN 2 & 3
FORT CALHOUN
SURRY 1 & 2
THREE MILE ISLAND
CATAWBA 1 & 2
CRYSTAL RIVER
DAVIS BESSE
NINE MILE POINT 1 & 2
ROBINSON
CLINTON
FITZPATRICK
QUAD CITIES 1 & 2
SUMMER
VERMONT YANKEE
MONTICELLO
BEAVER VALLEY 1 & 2
LASALLE 1 & 2
NORTH ANNA 1 & 2
DUANE ARNOLD
CALVERT CLIFFS 1 & 2
KEWAUNEE
The Nuclear Regulatory Commission (NRC) refers to these complaints as "Allegations from On-Site Sources" (current/former power plant employees/contractors and anonymous allegers). These are reports of impropriety or inadequacy of NRC-related safety or regulatory concerns. One allegation report may contain multiple allegations; however, the NRC counts it as one allegation in these statistics (Note: A concern about a safety-conscious work environment (SCWE) problem at a facility is an important allegation. However, a Notice of Violation cannot be issued, because there is no applicable NRC regulation.) There are 64 U.S. nuclear power plants & 104 reactors. Plants with multiple reactors are noted.
Source: www.nrc.gov/about-nrc/regulatory/allegations/statistics.htm
SanOnofreSafety.org


Employee Harassment and Retaliation Complaints
U.S. Nuclear Power Plants
2007 to 2012 (6 years)
San Onofre has highest retaliation rate against employees reporting safety problems!
(Located near San Clemente, CA)
Palo Verde (Arizona plant provides power to California)
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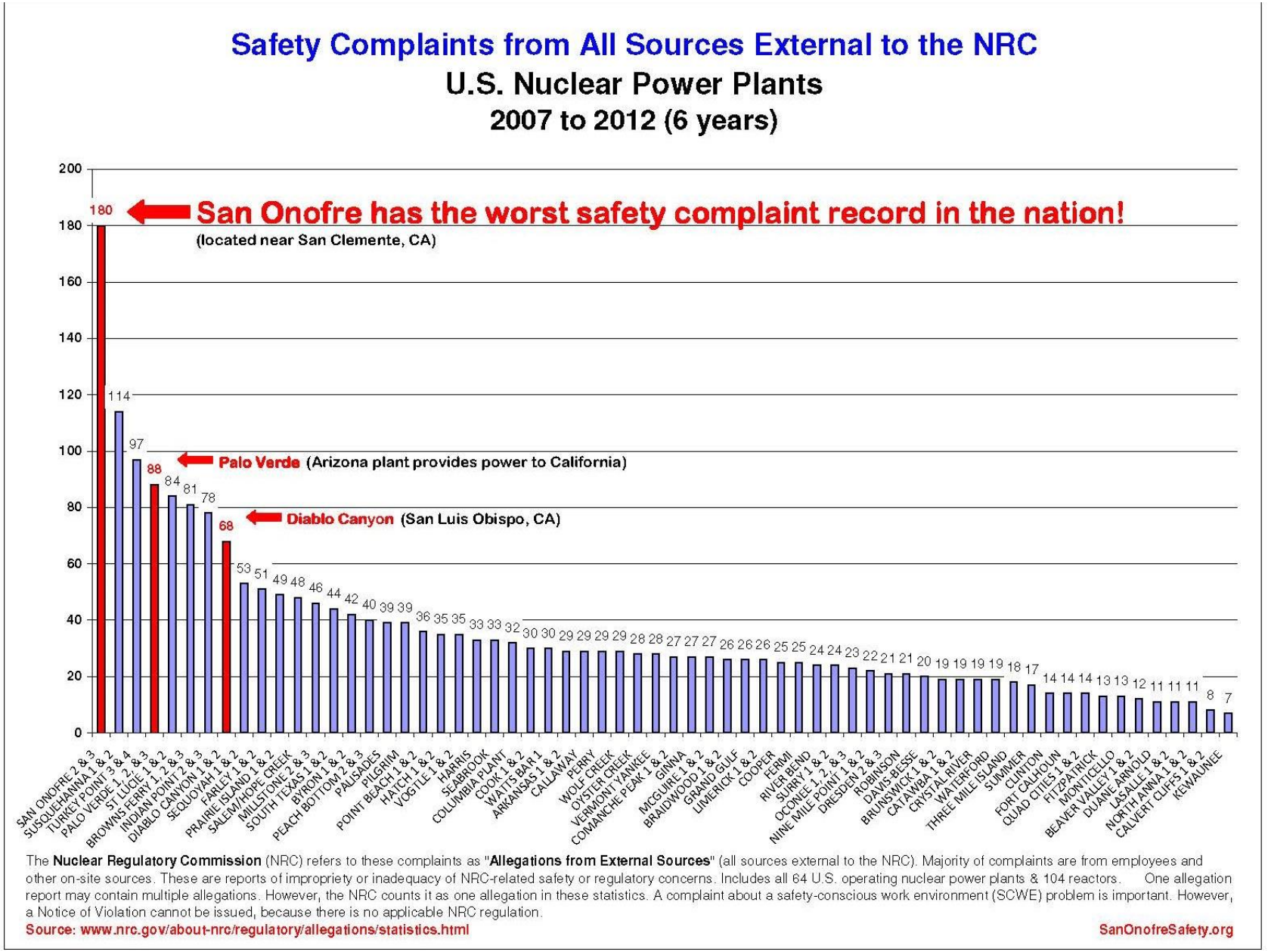
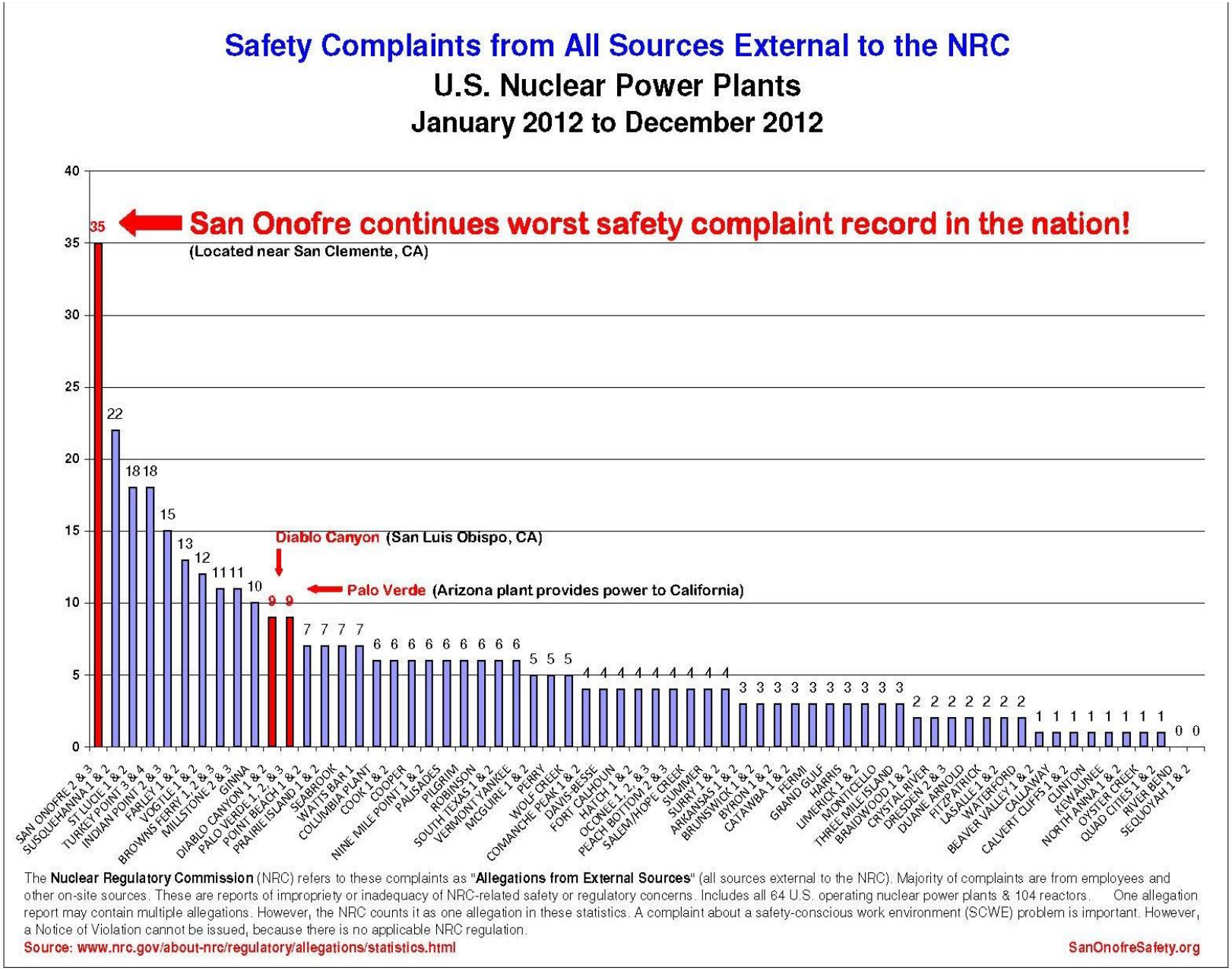
VERMONT YANKEE
BRAIDWOOD 1 & 2
DUANE ARNOLD
The Nuclear Regulatory Commission (NRC) refers to these reports as "Discrimination Allegations" from employees, contractors, or subcontractors of harassment, intimidation, or discrimination for raising NRC-related safety or regulatory concerns. One allegation report may contain multiple allegations. However, the NRC counts it as one allegation in these statistics. "Discrimination Allegations Received" is a subset of all "Allegations Received." There are 64 operating U.S. nuclear power plants & 104 reactors. Plants with multiple reactors are noted.
Source: www.nrc.gov/about-nrc/regulatory/allegations/statistics.html
SanOnofreSafety.org



The **Nuclear Regulatory Commission** (NRC) refers to these complaints as "**Allegations from External Sources**" (all sources external to the NRC). Majority of complaints are from employees and other on-site sources. These are reports of impropriety or inadequacy of NRC-related safety or regulatory concerns. Includes all 64 U.S. operating nuclear power plants & 104 reactors. One allegation report may contain multiple allegations. However, the NRC counts it as one allegation in these statistics. A complaint about a safety-conscious work environment (SCWE) problem is important. However, a Notice of Violation cannot be issued, because there is no applicable NRC regulation.

Source: www.nrc.gov/about-nrc/regulatory/allegations/statistics.html

SanOnofreSafety.org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SAN ONOFRE 2 & 3
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SanOnofreSafety.org

Comment Set 19

SIERRA CLUB

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August 15, 2016

Cynthia Herzog
Senior Environmental Scientist
California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825

Subject: SONGS Decommissioning NOP Comments

Dear Ms. Herzog:

I write in support of the application by Southern California Edison Company SCE and its Co-Participants* to implement the San Onofre Nuclear Generating Station Units 2 & 3 Post-Shutdown Decommissioning Project.

Those who care about the California coast have two primary concerns regarding spent nuclear fuel at San Onofre. The first concern is to move fuel rods from pools to dry cask storage as rapidly as possible. The second concern is to remove storage casks from the vulnerable San Onofre site at the earliest available opportunity.

Opinion is virtually unanimous that worst-case hazards are far more severe for nuclear waste stored in fuel pools rather than in dry casks. Construction of concrete structures holding steel canisters is an essential part of this transition.

For more than 30 years it has been a matter of national policy – and of Sierra Club policy – that nuclear waste be removed from operating sites and stored at one or more remote long-term repositories. In the interim, no site has been licensed for operation. As a result, spent fuel has remained on-site at all decommissioned commercial nuclear power plants. **19-1**

Some fear that construction of an ISFSI on-site at San Onofre will simply assure permanent storage there. Yet the ISFSI is essential to support dry storage and closure of spent fuel pools, and is also an essential prelude to moving the fuel off-site, which cannot be done directly from pools. To reconcile these concerns, we would ask the Commission to note the following additional aspects of project design and operation:

- Dry cask storage should be in canisters that can be transported if the opportunity arises to remove them from San Onofre.
- Transportation connections at San Onofre should be maintained in a condition that

enable spent fuel removal by rail or truck.
• Efforts at the state, regional and national level should be encouraged to develop safer, less exposed storage sites to which spent nuclear fuel can be moved from sites such as San Onofre that are subject to multiple risk factors.
• If such options develop, with the active support of Edison, responsible federal agencies should remove the canisters from the ISFSI and transport them to remote storage.

19-1 (cont.)

Thank you for consideration of our thoughts.

Sincerely,

Glenn Pascall, Chair
Sierra Club Task Force on San Onofre

---

* The Co-Participants are parties to a Decommissioning Agreement between SCE, San Diego Gas and Electric (SDG&E), and the cities of Anaheim and Riverside. The Agreement identifies the separate rights, duties, and obligations of the Co-Participants as the entities responsible for the SONGS decommissioning work and costs thereof.

Comment Set 20

The Nicholas Endowment

August 14, 2016

Cynthia Herzog
Senior Environmental Scientist
California State Lands Commission
100 Howe Avenue, Suite 100
South Sacramento, CA 95825
CEQAcomments@slc.ca.gov

RE: File Ref: SCH No. 2016071025
CSLC EIR No. 784; W30209
Environmental Impact Report Process for San Onofre Nuclear Generating Station Units 2 & 3 Post Shutdown Decommissioning Project.

To Whom It May Concern:

Thank you for the opportunity to provide input on the proposed process for the above named project. For the last two years I have served as the Secretary for the Community Engagement Panel for the decommissioning project of SONGS. In addition, I worked at the Ocean Institute in Dana Point for the past twenty three years and served as President and CEO for the last eleven years, before I retired in 2015. At the Ocean Institute, we serviced over 100,000 students a year with national award winning programs in marine science and maritime history. Some of our programs included student led research on the Wheeler North Reef just north of SONGS.

We reference to SONGS Post Shutdown Decommissioning Project, I would like to suggest:

1. A full radiological examination should be conducted for the conduits of Units 2 and 3 after the cooling pools are fully drained. Should any nuclear contamination be discovered, the conduits should be removed. **20-1**
2. If the conduits are not found to be contaminated, a full biological survey should be completed of the conduits, all appendages (risers and diffusers) and the surrounding areas to determine if they are providing and/or supporting any significant habitat for marine life. **20-2**

1505 E. 17th Street, Suite 101, Santa Ana, CA 92705

3. If the data collected supports the presence of a significant habitat for marine life, these conduits and their appendages should not be removed.
4. If, after an examination of the data, it is determined that the conduits and the surrounding areas are not supporting significant marine environments, then removing the conduits would not significantly damage this environment. As such, SCE should remove the conduits as previously agreed upon as a condition for the construction and operation of SONGS Unit 2 and 3 - unless there is fair mitigation compensation for leaving them in place.
5. SCE estimates that the cost of the removal of the conduits at $100 million. While SCE has reported that any funds left over from the decommissioning will be returned to the rate payer, it has been the rate payer that has benefited with low cost electricity provided over many years by SONGS. It has been the ocean environment that has been significantly damaged by the construction and operation of SONGS.
6. Should the California State Lands Commission approve SCE's request to abandon the conduits in place, SCE should pay 50% or $50 million of the savings into a trust fund for ocean education and stewardship to be administered by the California Coastal Conservancy or like agency. This mitigation compensation would be an investment in the future of our ocean environment, as well as our next generation. This mitigation compensation plan would be in keeping with the CSLC's charge of protecting "the lands and resources entrusted to its care through balanced management."
7. The conduits for Unit 1 were abandoned in place with no mitigation. With the decommissioning of Units 2 & 3, it is now time to balance the scales of environmental justice.

As SCE agreed to remove the conduits as a condition for the construction of Units 1, 2 & 3, it is only fair and reasonable that mitigation compensation should be provided if that agreement is re-negotiated or changed in any way.

20-2 (cont.)

20-3

Thank you in advance for your serious consideration of the input provided herein.

Sincerely,

Daniel T. Stetson
Executive Director

Comment Set 21

Jerry & Carol Collamer
231 La Paloma
San Clemente Ca
92672
949-366-9876

August 1, 2016

To: Cynthia Herzog
Cal State Lands Commission
Sac CA 95825

Dear Ms. Herzog, as 20-year San Clemente residents, living less than 4-miles from SONGS, I deplore you to give your utmost attention to San Clemente resident Donna Gilmore's conclusive research, and evidence; the casks selected to house SONG's spent fuel rods, are substandard, and will ultimately fail the test-of-time. Casks of a much higher quality are readily available. Yes, they cost more, but in the multi-billion dollar nuclear business, to not buy the best available is penny-wise and pound-foolish. The nuclear industry is not a fail-safe environment, but the casks we store nuclear waste in, must be. **21-1**

Please give this matter of Life & Death (from leaking radioactivity) your closest scrutiny. Nothing, long term, could be more important to the citizens of Orange County CA, and North San Diego County.

Donna Gilmore is 100% correct.

Please heed her advice.

Jerry & Carol Collamer
San Clemente CA. 92672
jcollamer@att.net

Jerry Collamer
Carol Collamer

Comment Set 22

Herzog, Cynthia@SLC

Subject: FW: SAN ONOFRE SPENT NUCLEAR WASTE DISPOSAL

-----Original Message-----
From: MARILYN FUSS [mailto:marilynfuss@sbcglobal.net]
Sent: Saturday, August 13, 2016 3:29 PM
To: Comments, CEQA@SLC
Subject: SAN ONOFRE SPENT NUCLEAR WASTE DISPOSAL

Marilyn Fuss
3310 Tyburn St.
Los Angeles, CA. 90039

August 13, 2016

Cynthia Herzog
California State Lands Commission
100 Howe Ave. Suite 100 South
Sacramento, CA 95825

Dear Ms. Herzog:

I have attended meetings of the SONGS coalition in San Diego and Orange Counties over the past year, usually getting up to talk as an interested citizen of the region about my concern of geological factors such as those mentioned in Item 3.2.5, and hazardous materials mentioned in 3.2.6. What has become more sweepingly obvious and also imminent is sea level rise due to melting polar icecaps. As polar bears and penguins lose their land havens, places like Pakistan, parts of Indonesia, and before long, the California coast, will continue to be submerged. This is not quite mentioned in Item 3.2.7, but current geological and meteorological scientists almost unanimously agree what a danger that could be when submerging nuclear waste drums, many of them too thin-walled to be safe. Let's do everything we can to get those drums inland, and buried in strong rock formations. Texas and New Mexico, landlocked, have offered locations. We cannot afford to wait to move these structures from San Onofre AND Diablo Canyon. Thank you for reading.
Sincerely,

22-1

Marilyn Fuss
member, 350.org

Comment Set 23

Herzog, Cynthia@SLC

From: Gillies, Eric@SLC
Sent: Tuesday, August 16, 2016 6:27 AM
To: Herzog, Cynthia@SLC
Subject: FW: SONGS Decommissioning NOP

-----Original Message-----
From: daryl [mailto:turtleperson@earthlink.net]
Sent: Monday, August 15, 2016 4:05 PM
To: Comments, CEQA@SLC
Subject: SONGS Decommissioning NOP

These are my concerns from the recent workshop:

The most troubling aspects of the document have to do with the three possible disasters which in many ways; our understanding of them has changed since Songs was built.

The sections I am focusing on are 1.1 Onshore Site and 3.2.5 Geology and Soils

Sea Level Rise and encroachment leading to much quicker corrosion of canisters stored way too close to the shoreline.

Documentation of Sea Level Rise faster than we anticipated by Dr James Hansen

http://www.slate.com/blogs/the_slatest/2015/07/20/sea_level_study_james_hansen_issues_dire_climate_warning.html

http://www.ecowatch.com/james-hansen-emergency-cooperation-among-nations-is-needed-to-prevent--1882073266.html

23-1

We have better equipment now to be cognizant of earthquake hazards in the immediate vicinity

https://sanonofresafety.org/earthquake-and-tsunami-risks/

Tsunamis are a real risk to radioactive canisters stored on the beach

http://www.nbcnews.com/science/science-news/study-finds-greater-tsunami-risk-southern-california-quake-n423591

Please take into consideration the above serious problems that could occur before we have a federally sanctioned repository to send the waste to.

Thank you,

Daryl Gale

Comment Set 23 (Attachments)

Slätest YOUR NEWS COMPANION | JULY 20 2015 4:23 PM

Earth's Most Famous Climate Scientist Issues Bombshell Sea Level Warning

By Eric Holthaus

Monday's new study greatly increases the potential for catastrophic near-term sea level rise. Here, Miami Beach, among the most vulnerable cities to sea level rise in the world.

Photo by Joe Raedle/Getty Images

In what may prove to be a turning point for political action on climate change, a breathtaking new study casts extreme doubt about the near-term stability of global sea levels.

The study—written by James Hansen, NASA's former lead climate scientist, and 16 co-authors, many of whom are considered among the top in their fields—concludes that glaciers in Greenland and Antarctica will melt 10 times faster than previous consensus estimates, resulting in sea level rise of at least 10 feet in as little as 50 years. The study, which has not yet been peer-reviewed, brings new importance to a feedback loop in the ocean near Antarctica that results in cooler freshwater from melting glaciers forcing warmer, saltier water underneath the ice sheets, speeding up the melting rate. Hansen, **who is known for being alarmist and also right**, acknowledges that his study implies change far beyond previous consensus estimates. In a conference call with reporters, he said he hoped the new findings would be "substantially more persuasive than anything previously published." I certainly find them to be.

To come to their findings, the authors used a mixture of paleoclimate records, computer models, and observations of current rates of sea level rise, but "the real world is moving somewhat faster than the model," Hansen says.

Hansen's study does not attempt to predict the precise timing of the feedback loop, only that it is "likely" to occur this century. The implications are mindboggling: In the study's likely scenario, New York City—and every other coastal city on the planet—**may only have** a few more decades of habitability left. That dire prediction, in Hansen's view, requires "emergency cooperation among nations."

> We conclude that continued high emissions will make multi-meter sea level rise practically unavoidable and likely to occur this century. Social disruption and economic consequences of such large sea level rise could be devastating. It is not difficult to imagine that conflicts arising from forced migrations and economic collapse might make the planet ungovernable, threatening the fabric of civilization.

The science of ice melt rates is advancing so fast, scientists have generally been reluctant to put a number to what is essentially an unpredictable, nonlinear response of ice sheets to a steadily warming ocean. With Hansen's new study, that changes in a dramatic way. One of the study's co-authors is Eric Rignot, whose own study last year found that glacial melt from West Antarctica now appears to be "unstoppable." Chris Mooney, writing for *Mother Jones*, **called that study** a "holy shit" moment for the climate.

One necessary note of caution: Hansen's study comes via a nontraditional publishing decision by its authors. The study will be published in *Atmospheric Chemistry and Physics*, an open-access "discussion" journal, and will not have formal peer review prior to its appearance online later this week. **[Update, July 23: The paper is now available.]** The complete discussion draft circulated to journalists was 66 pages long, and included more than 300 references. The peer review will take place in real time, with responses to the work by other scientists also published online. Hansen said this publishing timeline was necessary to make the work public as soon as possible before global negotiators meet in Paris later this year. Still, the lack of traditional peer review and the fact that this study's results go far beyond what's been previously published will likely bring increased scrutiny. On Twitter, Ruth Mottram, a climate scientist whose work focuses on Greenland and the Arctic, **was skeptical** of such enormous rates of near-term sea level rise, though **she defended** Hansen's decision to publish in a nontraditional way.

In 2013, Hansen left his post at NASA to become a climate activist because, **in his words**, "as a government employee, you can't testify against the government." In a wide-ranging December 2013 study, conducted to support Our Children's Trust, a group advancing legal challenges to lax greenhouse gas emissions policies on behalf of minors, Hansen **called for** a "human tipping point"—essentially, a social revolution—as one of the most effective ways of combating climate change, though he still favors a bilateral carbon tax agreed upon by the United States and China as the best near-term climate policy. In the new study, Hansen writes, "there is no morally defensible excuse to delay phase-out of fossil fuel emissions as rapidly as possible."

Asked whether Hansen has plans to personally present the new research to world leaders, he said: "Yes, but I can't talk about that today." What's **still uncertain** is whether, like with so many previous dire warnings, world leaders will be willing to listen.

Slätest YOUR NEWS COMPANION | AUG 15 2016 6:36 PM

Climate (/climate-change) Jul 21, 2015

James Hansen: 'Emergency Cooperation Among Nations' Is Needed to Prevent Catastrophic Sea Level Rise

By EWContributor (/community/ecowatch_contributor)

If a new scientific paper is proven accurate, the international target of limiting global temperatures to a 2°C rise this century will not be nearly enough to prevent catastrophic melting of ice sheets that would raise sea levels (http://ecowatch.com/?s=sea+level+rise) much higher and much faster than previously thought possible.

According to the new study—which has not yet been peer-reviewed, but was written by former NASA scientist James Hansen and 16 other prominent climate researchers—current predictions about the catastrophic impacts of global warming (http://ecowatch.com/climate-change-news/), the melting of vast ice sheets and sea level rise do not take into account the feedback mechanisms that will occur if large sections of Greenland (http://ecowatch.com/2014/03/18/greenland-glaciers-losing-10-billion-tons-ice/) and the Antarctic (http://ecowatch.com/2015/05/28/nasa-antarctica-ice-shelf/) are consumed by the world's oceans.

"Roughly 10 feet of sea level rise—well beyond previous estimates—would render coastal cities such as New York, London, and Shanghai uninhabitable." Photo credit: Woodbine

A summarized draft of the full report was released to journalists on Monday, with the shocking warning that such glacial melting will "likely" occur this century and could cause as much as a 10 foot sea-level rise in as little as 50 years. Such a prediction is much more severe than current estimates contained in reports issued by the Intergovernmental Panel on Climate Change (IPCC)—the UN-sponsored body that represents the official global consensus of the scientific community.

"If the ocean continues to accumulate heat and increase melting of marine-terminating ice shelves of Antarctica and Greenland, a point will be reached at which it is impossible to avoid large scale ice sheet disintegration with sea level rise of at least several meters," the paper states.

Separately, the researchers conclude that "continued high emissions will make multi-meter sea level rise practically unavoidable and likely to occur this century. Social disruption and economic consequences of such large sea level rise could be devastating. It is not difficult to imagine that conflicts arising from forced migrations and economic collapse might make the planet ungovernable, threatening the fabric of civilization."

The Daily Beast's Mark Hertsgaard, who attended a press call with Dr. Hansen on Monday, reports (http://www.thedailybeast.com/articles/2015/07/20/climate-seer-james-hansen-issues-his-direst-forecast-yet.html) that the work presented by the researchers is

> warning that humanity could confront "sea level rise of several meters" before the end of the century unless greenhouse gas emissions (http://ecowatch.com/news/energy-news/) are slashed much faster than currently contemplated.
>
> This roughly 10 feet of sea level rise—well beyond previous estimates—would render coastal cities such as New York, London, and Shanghai uninhabitable. "Parts of [our coastal cities] would still be sticking above the water," Hansen said, "but you couldn't live there."
>
> This apocalyptic scenario illustrates why the goal of limiting temperature rise to 2 degrees Celsius is not the safe "guardrail" most politicians and media coverage imply it is, argue Hansen and 16 colleagues in a blockbuster study they are publishing this week in the peer-reviewed journal *Atmospheric Physics and Chemistry (http://www.atmospheric-chemistry-and-physics.net/)*. On the contrary, a 2C future would be "highly dangerous."
>
> If Hansen is right—and he has been right, sooner, about the big issues in climate science longer than anyone—the implications are vast and profound.

Read page 1 (http://ecowatch.com/2015/07/21/james-hansen-climate-report/)

In the call with reporters, Hansen explained that time is of the essence, given the upcoming climate talks in Paris (http://www.commondreams.org/tag/cop21) this year and the grave consequences the world faces if bold, collective action is not taken immediately. The new study has a global crisis that calls for international cooperation to reduce emissions as rapidly as practical," the paper states.

Hansen said he has long believed that many of the existing models were under-estimating the potential impacts of ice sheet melting, and told the *Daily Beast*: "Now we have evidence to make that statement based on much more than suspicion."

Though he acknowledged the publication of the paper was unorthodox, Hansen told reporters that the research itself is "substantially more persuasive than anything previously published."

For his part, Eric Holthaus, a meteorologist who writes about weather and climate for *Slate*, said the "bombshell" findings are both credible and terrifying. Holthaus writes (http://www.slate.com/blogs/the_slatest/2015/07/20/sea_level_study_james_hansen_issues_dire_climate_warning.html

To come to their findings, the authors used a mixture of paleoclimate records, computer models, and observations of current rates of sea level rise, but "the real world is moving somewhat faster than the models," Hansen says.

[…] The implications are mindboggling: In the study's likely scenario, New York City—and every other coastal city on the planet—may only have (http://www.thedailybeast.com/articles/2015/07/20/climate-seer-james-hansen-issues-his-direst-forecast-yet.html?utm_content=buffer1b0f4&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer) a few more decades of habitability left. That dire prediction, in Hansen's view, requires "emergency cooperation among nations."

In response to the paper, climate scientist Michael Oppenheimer of Princeton University affirmed (http://www.washingtonpost.com/news/energy-environment/wp/2015/07/20/the-worlds-most-famous-climate-scientist-just-outlined-an-alarming-scenario-for-our-planets-future/): "If we cook the planet long enough at about two degrees warming, there is likely to be a staggering amount of sea level rise. Key questions are when would greenhouse-gas emissions lock in this sea level rise and how fast would it happen? The latter point is critical to understanding whether and how we would be able to deal with such a threat."

The new research, Oppenheimer added, "takes a stab at answering the 'how soon?' question but we remain largely in the dark. Giving the state of uncertainty and the high risk, humanity better get its collective foot off the accelerator."

And as the *Daily Beast*'s Hertsgaard notes, Hansen's track record on making climate predictions should command respect from people around the world. The larger question, however, is whether humanity has the capacity to act.

"The climate challenge has long amounted to a race between the imperatives of science and the contingencies of politics," Hertsgaard concludes. "With Hansen's paper, the science has gotten harsher, even as the *Nature Climate Change* study (http://phys.org/news/2015-05-limit-climate.html) affirms that humanity can still choose life, if it will. The question now is how the politics will respond—now, at Paris in December, and beyond."

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San Onofre Safety

Nuclear Safety and Cost

Earthquake Risk

San Onofre was redesigned for a 7.0 earthquake, but sits near faults capable of 8.0+ earthquakes — 10 times larger, 32 times stronger, and long overdue. See USGS earthquake calculator.

USGS predicts probability of at 7.5+ earthquake in Southern California as 36% in 30-years and a probability of a 7.0+ earthquake as 75%. Northern California a 7.0+ as 37% in 30-years.

There is no seismic rating for the nuclear waste thin storage canisters that may already be cracking at San Onofre and other nuclear plants, especially in the corrosive coastal environment. Each of the canisters contains more radiation (Cesium-137) than that released from Chernobyl.

Nelson Mar, PhD (former Senior Engineer for the original design of San Onofre Units 2 & 3), said **San Onofre is not designed for current earthquake or tsunami risks**. See 3/27/12 Irvine City Council meeting video.

Over the next 30 years the probability of a major earthquake occurring in Southern California is 60% and 67% in the San Francisco Bay area.

USGS: "…no scientists have EVER predicted a major earthquake."

They do not know how and they do not expect to know how any time in the foreseeable future. Major earthquakes can occur on what are predicted to be minor faults. Based on scientific data, only probabilities can be calculated for potential future earthquakes. **U.S. Geological Survey (USGS)**

5.5+ magnitude. Source: USGS Centennial Catalog 1900 – 2002 and USGS/NEIC (PDE) Catalog 1973 – Feb 2014

- **"Information about how big an earthquake's going to be may not be in the earth's crust BEFORE the earthquake begins"** says USGS seismologist Dr. Lucy Jones.

- **Although it is known that most global earthquakes will concentrate at the plate boundaries, there is no reliable method of accurately predicting the time, place and magnitude of an earthquake…**

Many seismic countries, however, have research programs based on identifying possible precursors to major earthquakes. This includes the study of dilatancy, how rocks crack and expand

under the increased stress associated with the earthquake. Some major earthquakes, but not all, are heralded by the occurrence of foreshocks. which can be detected by dense local monitoring networks. Other instruments can measure changes in the levels of radon gas, electrical and magnetic properties, velocity changes of seismic waves and changes in topography. Long term monitoring and examination by these sensors is required as ***some or all of these factors may change due to the opening of cracks PRIOR to the earthquake.*** *All attempts to predict earthquakes have, however, been generally considered as failures and it is unlikely that accurate prediction will occur in the near future. Efforts will, instead, be channelled into hazard mitigation.* ***Earthquakes are difficult or impossible to predict because of their inherent random element and their near-chaotic behaviour.*** *British Geology Survey FAQS*

- "**The Earth's natural systems are not static...** This is why I personally feel we need to regularly update the scientific data we use to inform our regulatory approach so that our nuclear facilities are **adequately protected against unanticipated events",** said NRC Chairman Macfarlane at the November 6, 2012 INPO CEO conference, in reference to the Fukushima nuclear disaster.

Building design limitations due to ground motion unpredictibility

Professor Thomas Heaton of Caltech's Earthquake Engineering Research Lab, reveals limitations in designing structures to protect against large earthquakes. Every earthquake has different dynamics and affects different types of construction differently. "All tall buildings are designed to be flexible, but here's the rub," Heaton said. "**People talk about a building designed for an 8 [magnitude], as if anybody has a good idea of what the actual ground motion would be in an 8**. There's tremendous variation from one place to another." If you "put a really large quake under downtown L.A., 7-plus, it could be a true nightmare." *L.A. Times, Earthquakes on the brain, April 1, 2014.*

Disconnected faults can jump nine feet, according to new 2015 USGS data

Southern California 8+ earthquake 30-year probability increased from 3% to 7% due to new understanding about how disconnected faults can jump up to nine feet.

Estimates of the chance of a magnitude 8.0 or greater earthquake hitting California in the next three decades have been raised from about 4.7% to 7%, the U.S. Geological Survey said Tuesday [March 9, 2015]. Scientists said the reason for the increased estimate was because of the growing understanding that earthquakes aren't limited to separate faults, but can start on one fault and jump to others. The result could be multiple faults rupturing in a simultaneous mega-quake... LA Times, March 9, 2015

New Forecast for California's Earthquake Fault System, USGS, March 2015

Southern California region					
Magnitude (greater than or equal to)	Average repeat time (years)		30-year likelihood of one or more events		Readiness
5	0.24	(0.7)	100%	(1.0)	1.0
6	2.3	(0.9)	100%	(1.0)	1.0
6.7	12	(1.5)	93%	(1.0)	1.0
7	25	(1.4)	75%	(0.9)	1.1
7.5	87	(1.2)	36%	(0.9)	1.2
8	522	(0.4)	7%	(2.5)	1.3

Northern California region					
Magnitude (greater than or equal to)	Average repeat time (years)		30-year likelihood of one or more events		Readiness
5	0.24	(0.7)	100%	(1.0)	1.0
6	2.4	(0.9)	100%	(1.0)	1.0
6.7	12	(1.2)	95%	(1.0)	1.0
7	25	(1.2)	76%	(1.0)	1.1
7.5	92	(0.9)	28%	(1.1)	1.0
8	645	(0.8)	5%	(1.4)	1.1

Fracking on the Newport-Inglewood Fault

- Fracking for oil is currently being done in Baldwin Hills by the Plains Exploration and Production Co (PXP), a Texas based company, on the Newport-Inglewood fault. Earthquakes have been triggered by fracking.
- The Newport-Inglewood fault runs by the San Onofre nuclear power plant. Even though San Onofre is shutdown, the over 1600 tons of highly radioactive waste could be damaged by an earthquake from this fault, resulting in a nuclear disaster greater than the one currently happening in Japan. See also SCEC Final Technical Report, Integration of Fault Information, November 2009, p. 15 & 22.
- **The California Conservation Division of Oil, Gas and Geothermal Resources has authority to regulate fracking, but refuses to do so**. The last Division Chief lost her job after supporting stronger regulations.
  - See **The 'F' Word: Unregulated Fracking at Oil Wells Raising Concerns – KCET SoCal Connected 3/23/2012**.
  - "Governor Jerry Brown..."fired two officials who had sharply slowed down the process for issuing new drilling permits. He followed that with the year-end appointment of Tim Kustic as the chief drilling regulator—"a geologist who knows the industry," says Rock Zierman, head of the California Independent Petroleum Association. Occidental Petroleum CEO Steve Chazen gave Brown a nod at the company's fourth-quarter conference call in January: "We are pretty encouraged by the way things are going now. . . . The governor is very pro-jobs." City Journal Summer 2012.
- **In the Los Angeles Basin (Figure 4.4-9), disposal wells are concentrated mainly in oilfields located along the Holocene Newport-Inglewood fault zone** (slip rate 1.5 mm/yr), a segment of which was the source of the destructive 1933 Mw6.4 Long Beach earthquake, and in the Wilmington oilfield.

Several wells in the Wilmington field are located within 4 km (2.5 mi) of the Holocene Palos Verdes fault (slip rate 3 mm/yr). Only scattered seismicity has occurred near any these fields except Inglewood and Cheviot Hills at the northwestern end of the Newport-Inglewood trend. As in the Ventura Basin, clusters of seismicity are located close to some disposal wells but also elsewhere. The cluster at the top-center of the figure are aftershocks of the 2014 La Habra earthquake.

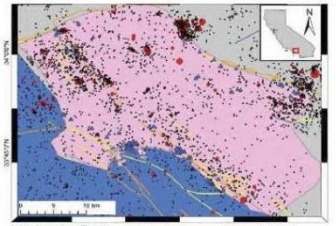


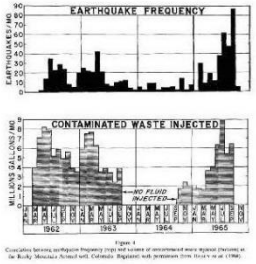
Figure 4.4-9. Earthquakes M≥1.5 in the Los Angeles Basin from Hauksson et al. (2012). Wells and faults as in Figure 4.4-4.

An Independent Scientific Assessment of Well Stimulation in California, An Examination of Hydraulic Fracturing and Acid Stimulations in the Oil and Gas Industry, Jane C. S. Long, PhD, California Council on Science and Technology, Steering Committee Chairman; Science Lead Jens T. Birkholzer, PhD, Lawrence Berkeley National Laboratory Principal Investigator; Laura C. Feinstein, PhD, California Council on Science and Technology, Project Manager

Fracking can trigger earthquakes

Earthquakes can be triggered by any significant perturbation of the hydrologic regime. In areas where potentially active faults are already close to failure, the increased pore pressure resulting from fluid injection, or, alternatively, the massive extraction of fluid or gas, can induce sufficient stress and/or strain changes that, with time, can lead to sudden catastrophic failure in a major earthquake.

Source: *Triggered Earthquakes and Deep Well Activities, Craig Nicholson and Robert L. Wesson, 1992.*



Correlation between earthquake frequency & volume of contaminated waste injected. Rocky Mountain Arsenal Well, Colorado 1962-65

Lessons learned from the March 11, 2011 9.0 Tohoku, Japan earthquake.

- **Seismologists across the globe were surprised by the magnitude of shaking** that occurred in the segment of fault responsible for the Tohoku quake. Japanese scientists had not believed a quake of such intensity could occur in that area, which in turn impacted tsunami strength estimates.
- **Insights gained from the Tohoku earthquake are leading scientists to re-evaluate the way they've assumed many other major faults are segmented**. This may end up altering some hazard analyses for the West Coast, and will contribute to improved scenario modeling, building code development, and public warnings about tsunami threats.
- **An unparalleled amount of strong ground motion data** were recorded.
- **Many cases of liquefaction were witnessed** and filmed for the first time. Liquefaction occurs when soil loses strength and stiffness due to an applied stress like an earthquake and behaves like a liquid, often causing damage to structures and infrastructure.
- **Even though the Japanese had planned and were well-prepared for a 200- or 300-year tsunami, they were not prepared for the 1000-year tsunami** (an event that's likely to occur just once every 1,000 years) that came instead. Consequently, Japan is currently updating its tsunami disaster plans for all of its coastal areas and requiring that all plans take evidence from paleo-tsunami deposits into consideration.
- **Paleo-tsunami deposits** are the sand and mud that tsunamis leave behind. By studying deposits from recent events like the March 11 tsunamis, scientists are able to develop criteria for what those deposits look like and use them to examine coastal areas for records of tsunamis that struck centuries back. They can tell when tsunamis occurred and how far inland they reached by looking at the evidence left behind. USGS coastal and marine geologists Bruce Jaffe, Bruce Richmond, and Rick Wilson have worked with Japanese scientists over the past year to study these deposits in Japan. Said Jaffe, "Japan has learned from this tsunami that it's necessary to look at the geologic evidence for tsunamis in conjunction with the current understanding of earthquake potential to accurately assess the future tsunami hazard." He explained that "Each tsunami brings its own sand and mud. Japan recognizes the value of using the very rich record of past tsunamis to help us understand the hazard for future tsunamis."
- **The United States is also conducting its own paleo-tsunami deposit studies** in California, Alaska, the Caribbean, Puerto Rico, and the Virgin Islands to better understand the tsunami risk in those areas.

Ratepayers must pay $64 million in new seismic studies.

- **The California Public Utilities Commission is forcing ratepayers to pay $64 million in new seismic studies**, even though existing data proves San Onofre cannot handle the current known risks and USGS says size of earthquakes is not predictable (e.g. size may change after earthquake begins). Similar $64 million dollar studies were also approved for the Diablo Canyon nuclear power plant.
- **Part of the seismic studies include sonic blasts that will maim and kill large numbers of whales, dolphins, seals, sea lions, otters, and other marine life**. See Coastal Commission staff recommendations approved by the Commission.

Lessons learned about strike-slip faults from 8.6 East Indian Ocean earthquake.

- **On April 11, 2012, an 8.6 earthquake struck the East Indian Ocean along a strike-slip fault – the largest earthquake ever recorded on a strike slip and 10 times larger than any previously recorded strike-slip quake**.
- A large earthquake in one part of the globe can trigger earthquakes elsewhere. In the 6 days after the quake, the number of earthquakes across the globe that were 5.5 or larger increased nearly five fold. **"if you asked any of us if this event is possible a year ago, we would have laughed at you"**, **said Thomas Heaton, seismologist at California Institute of Technology**. BayCitizen.org 9/28/2012, USGS 9/26/2012, Nature 2012

San Onofre and Diablo Canyon nuclear plants are located within the "Ring of Fire".

The "Ring of Fire", also called the Circum-Pacific belt, is the zone of earthquakes surrounding the Pacific Ocean. About **90% of the world's earthquakes** occur there.

See animation of 2011 global 6.0+ earthquakes (using USGS data) and more maps below.

Sources: U.S. Geological Survey, Washington Post

Mexico's recent 7.4 earthquake (03/20/2012) was **2.5 times larger and 4 times stronger** than what San Onofre is designed for. Japan's Fukushima Daiiachi nuclear meltdown began after a 9.0 earthquake.

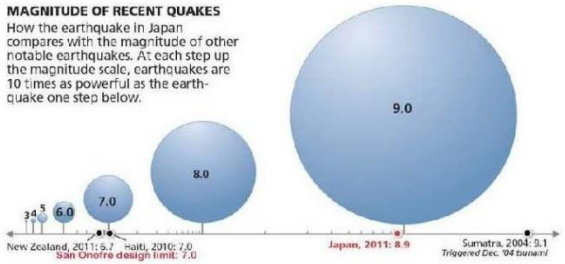
Lessons learned about length of a fault.

Known length of a fault is not always a predictor of magnitude as in the 1952 Kern County 7.5 earthquake.

Vertical fracture on the northeast side of Bear Mountain, along the White Wolf Fault. At this location, a vertical displacement of 60 cm (2 ft) and a horizontal (left-lateral) displacement of 45 cm (1.5 ft) were measured along the break. Photo: University of California, Seismographic Station

Seismic evaluations are not required before license renewal.

San Onofre was originally licensed to shut down in 2013, but was extended to 2022. The plant was designed in 1973 for a 40 year lifespan. In 2013 Southern California Edison plans to ask for an extension to 2042. A comprehensive seismic analysis has not been conducted on San Onofre since 1995, according to an April 2012 Government Accountability Office report.



Handouts

- **Why more seismic studies are unnecessary at California nuclear plants**
- **Other handouts**

.

Resources

Forecasting California's earthquakes – What can we expect in the next 30 years (USGS)
The Uniform California Earthquake Rupture Forecast, Version 2 (UCERF 2)
California Institute of Technology (Caltech)
Southern California Earthquake Center (SCEC)
Nuclear Regulatory Commission
LA Times "50 New California Faults" 04/28/2010
Earthquake Country Information
Kern County Earthquake 7.5 (SCEC)
Significant Earthquakes & Faults in Southern CA (SCEC)
Earthquake Facts and Statistics (USGS)
British Geological Survey FAQS

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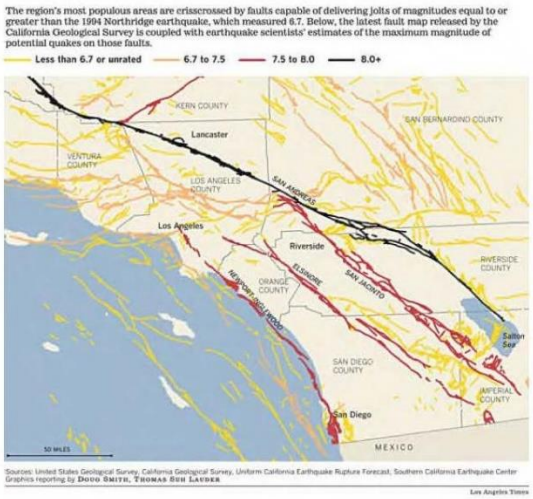
Maps



Southern California 8+ earthquake 30-year probability increased from 3% to 7% due to new understanding about how disconnected faults can jump up to nine feet. Estimates of the chance of a magnitude 8.0 or greater earthquake hitting California in the next three decades have been raised from about 4.7% to 7%, the U.S. Geological Survey said Tuesday [March 9, 2015]. Scientists said the reason for the increased estimate was because of the growing understanding that earthquakes aren't limited to separate faults, but can start on one fault and jump to others. The result could be multiple faults rupturing in a simultaneous mega-quake… LA Times, March 9, 2015

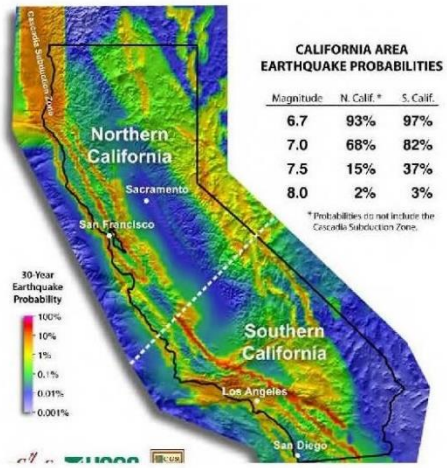
USGS A New Earthquake Forecast for California's Complex Fault System, March 2015

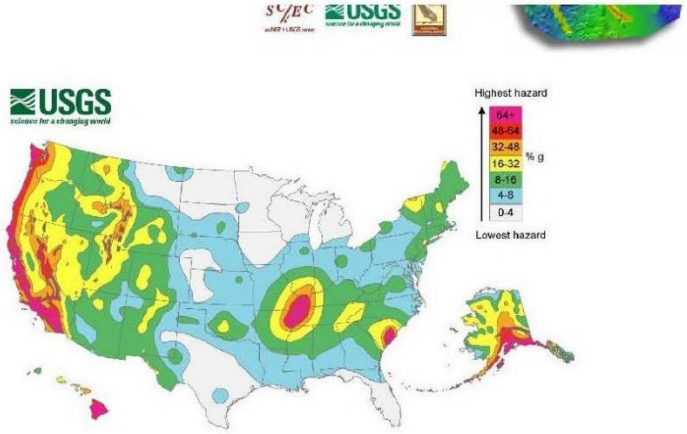
Note: Probabilities are outdated on this map. Use 2015 data from above for probabilities

Southern California region					
Magnitude (greater than or equal to)	Average repeat time (years)		30-year likelihood of one or more events		Readiness
5	0.24	(0.7)	100%	(1.0)	1.0
6	2.3	(0.9)	100%	(1.0)	1.0
6.7	12	(1.5)	93%	(1.0)	1.0
7	25	(1.4)	75%	(0.9)	1.1
7.5	87	(1.2)	36%	(0.9)	1.2
8	522	(0.4)	7%	(2.5)	1.3

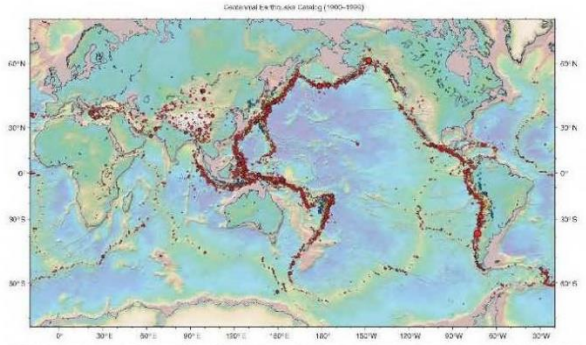
Northern California region					
Magnitude (greater than or equal to)	Average repeat time (years)		30-year likelihood of one or more events		Readiness
5	0.24	(0.7)	100%	(1.0)	1.0
6	2.4	(0.9)	100%	(1.0)	1.0
6.7	12	(1.2)	95%	(1.0)	1.0
7	25	(1.2)	76%	(1.0)	1.1
7.5	92	(0.9)	28%	(1.1)	1.0
8	645	(0.8)	5%	(1.4)	1.1

USGS California Earthquake Risks, revised March 2015





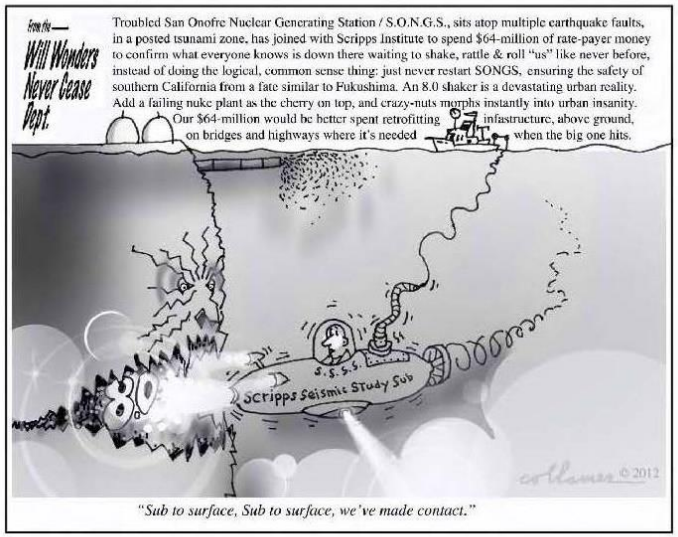
Global Earthquakes (1900-1999)



Color Plate 15 Global earthquake locations from 1900 to 1999 taken from the centennial catalog. Bathymetry/topography are from the database of Smith and Sandwell (1997). Earthquakes relocated in this study are shown by filled circles and unrelocated earthquakes by filled hexagons. Symbol fill is color coded according to focal depth: red = shallow events ($h < 70$ km); yellow = intermediate ($70 \leq h < 350$ km); and blue = deep ($h \geq 350$ km). A thick symbol outline is used for events with magnitudes greater or equal than 8.0.

Source USGS

2011 Global 6.0+ earthquakes plotted and animated with sound



"Sub to surface, Sub to surface, we've made contact."

Our worst nightmare every time the earth shakes in Southern California

Share this:

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Like

2 bloggers like this.

16 Responses to *Earthquake Risk*

CaptD *says:*
July 9, 2012 at 5:54 pm

SoCal is being "punked" by the "Powers To Be" since they know that we do not want Whales and or other sea animals harmed by marine sonic blasting either from the Navy or anyone else!

In effect we are being TEPCO'd by our Utility and or the NRC; this is not acceptable and I'm sure the new Chairwomen of the NRC who happens to be a World Famous geologist will agree!

Remember N☢ SORE (San Onofre Reactor Emergency) = N☢ need to do the study...

Just Say N☢...
Save US lots of money,
Remove the RISK of a Trillion Dollar Eco-Disaster like Fukushima,
and
Teach all the other Utility/Operators not to try and sneak modifications past the NRC!

Reply

Pingback: *Earthquake size is unpredictable says USGS seismologist | San Onofre Safety*

Pingback: *09-24-2012 Sacramento – Fish and Game public meeting on whale killing seismic surveys | San Onofre Safety*

Pingback: *RIP San Onofre Nuclear Generating Station, 1968 – 2012 | NOYO NEWS*

Pingback: *California plans for 7.8 earthquake but ignores San Onofre nuclear plant 7.0 design limit | San Onofre Safety*

Pingback: *11/14/2012 Santa Monica – California Coastal Commission meeting on whale killing seismic surveys | San Onofre Safety*

Umi Hagitani *says:*
November 15, 2012 at 10:44 am

This is a great post, Donna!

Reply

MajorTom *says:*
January 9, 2013 at 9:11 am

It is not difficult to envision a progressive failure (i.e. domino effect) being triggered by a major earthquake, when the condition of the steam generator tubes is unknown and the support system design for the tubes is apparently flawed with respect to limiting flow induced vibration effects.

Consider a scenario where a major earthquake causes a main steam line to rupture at a location between the steam generator and its main steam isolation valve. The resulting rapid depressurization of the affected steam generator would undoubtably create severe flow-induced vibrational effects in the tube bundle region. How you could model this is anyone's guess. The enhanced vibrational effects, coupled with higher differential pressure across the tube wall, could result in multiple tube failures and compromise the integrity of the reactor coolant system.

With all of the mass/energy release into the containment building atmosphere via the affected steam generator, it is possible that the containment building environmental pressure and temperature may exceed the design limits. In addition, when operating the plant at a reduced power level, the inventory of hot pressurized liquid water in the steam generator would be significantly greater than it is at full power (due to a lower void fraction within the tube bundle), so the amount of mass/energy release into the containment building would be significantly greater than what is predicted for a MSLB while operating at full power.

And what is the condition of the patched containment building walls and the dome? Is the rebar that holds the concrete walls in compression sound? Could there be corrosion issues or reduced pre-tension of the rebars? And what is the condition of the internal liner plating and protective coating?

Reply

MajorTom *says:*
January 9, 2013 at 11:18 am

The 9:11 time stamp on my last post was not intentional. It just happened that way without me being aware of what the time it was. Now, i'm not really into numerology, superstition, or anything like that, but I do know that sometimes unlikely (and strange) combinations of events happen the way they do for a reason.

Houston, we have a problem!
Can you hear me, Houston?
Houston?

Reply

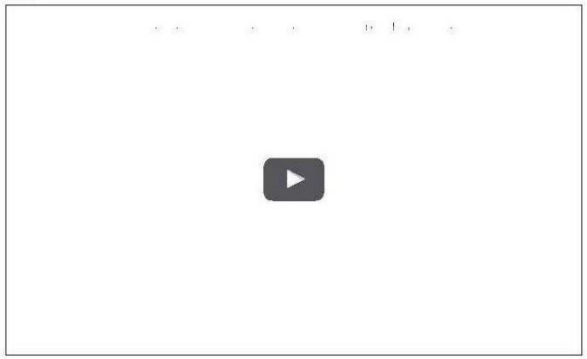
Pingback: *Weighing Our Options |*

Earthquake *says:*
January 30, 2013 at 4:37 am

1)
Kei Sugaoka Japan Engineer 4:18min http://www.youtube.com/watch?v=9Hnfz06kDiU
1000s Cracks Nuclear Reactors Japan same reactors USA Europe Asia
What type of nuclear reactor is he talking about ? Westinghouse Reactors ?
The results of the cracks in the Japanese Nuclear Reactors Mr. Kei Sugaoka is talking about are IGNORED/CENSORED/SUPPRESSED by the IAEA.
2)
Kei Sugaoka Japan Engineer 2/2
1000s Cracks Nuclear Reactors Japan same reactors USA Europe Asia
http://www.nytimes.com/2011/04/27/world/asia/27collusion.html

3) 8865 Cracks in Nuclear Reactor Doel-3, Belgium, 2030 Fractures Nuclear Reactor Tihange-2.
Tihange-3 shut down because RADIOACTIVE water leaks = the cracks in the Nuclear Reactor Tihange-3 are SO MASSIVE that radioactive water leaks and the Belgian Nuclear Agency FANC still censors the Ultra Sound Inspection Results of the Tihange-3 Reactor, we wonder WHY?!!
http://www.fanc.fgov.be/GED/00000000/3300/3323.pdf
4) additional 31 pages technical documents by the Euro Greens, Brussels:
http://www.greens-efa.eu/fileadmin/dam/Documents/Studies/Comments_on_flaws_Doel_3.pdf
5)
San Onofre Diablo Canyon + 15 other US Nuclear Reactor EARTHQUAKE
New Madrid Seismic Zone New Madrid Fault Line
http://en.wikipedia.org/wiki/New_Madrid_Fault_Line
http://usatoday30.usatoday.com/news/nation/2011-04-11-1Anukes11_ST_N.htm

6) 20/60 Nuclear Reactors of France in WORST possible Earthquake Zone Rhone Valley +
LARGEST Uranium Enrichment Factory worldwide Pierrelatte Tricastin in WORST EARTHQUAKE ZONE in France, directly on a fault line.



Reply

emergency survival list *says:*
May 17, 2013 at 11:49 pm

It may not be possible to take your pet with you to a temporary evacuation shelter. Once North has been established, find the direction you want to go, and choose a terrain feature in that direction that is both far away and easy to differentiate from other features (a hilltop, large tree, rock, etc). Creative visualization and enthusiasm is a key in understanding and are included in what I call "survival kit" for the heart and soul.

Reply

Pingback: *Tweet Tweet!! Thanks for the "Mentions" WE ARE THE MEDIA NOW, the #NuCLEAR MEDIA | Lucy Occupy Says...*

Pingback: *San Onofre Nuclear Closure Will Take Decades, Cost Billions | harman on earth*

Pingback: *Everyone should be happy that SONGS is being shut down | OC Politics Blog*

Pingback: *The 5 Worst Places to Stay in America – Wild Rye*

San Onofre Safety

Blog at WordPress.com.

SCIENCE > SCIENCE NEWS

SPACE ENVIRONMENT WEIRD SCIENCE

SCIENCESEP 8 2015, 2:38 PM ET

Study Finds Greater Tsunami Risk From Southern California Quake

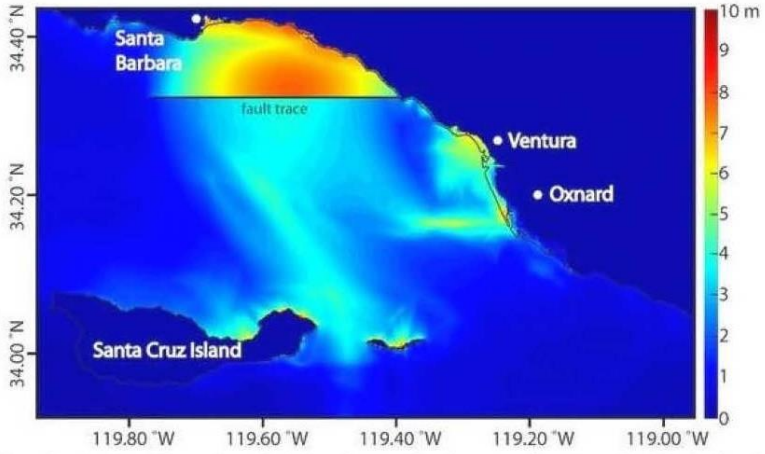
by CHARLES Q. CHOI, LIVESCIENCE

SHARE

Californians may be used to hearing about the threat of potentially deadly earthquakes, but a new study finds that quake-triggered tsunamis pose a greater risk to Southern California than previously thought.

Tsunamis are monster waves that can reach more than 100 feet (30 meters) high. They are often caused by earthquakes; the 2004 Banda Aceh earthquake and tsunami killed about 250,000 people, while the 2011 Tohoku earthquake and tsunami that struck offshore of Japan killed about 20,000 people and triggered a nuclear disaster.

Tsunamis increase in size as the depth of water in which they occur decreases. Since water depth is usually shallow near coastlines, tsunamis can grow as they approach land, becoming particularly dangerous along heavily populated coastlines, such as those in Southern California, the researchers said. [10 Tsunamis That Changed History]



Map of regional peak tsunami amplitude in meters resulting from an earthquake on the Pitas Point and Lower Red Mountain fault system. The thin solid black line indicates the coastline and the thick black line indicates the Pitas Point fault trace. Kenny Ryan, UC Riverside

Scientists focused on the Ventura Basin in Southern California, which has offshore faults that can probably generate earthquakes of magnitude 7 or greater. The researchers created 3D models of ruptures on the 31-mile-long (45 kilometers) Pitas Point and 22-mile-long (35 km) Lower Red Mountain undersea faults.

Although homes and buildings on the coastlines directly opposite these faults would naturally be vulnerable to any tsunamis, until now, additional low-lying areas farther to the east were not necessarily expected to be in harm's way. The new study suggests the cities of Ventura and Oxnard might be under greater threat of tsunami flooding than was previously thought.

In the computer simulation, a tsunami generated by a magnitude-7.7 earthquake on the Pitas Point and Lower Red Mountain faults divided in two. One wave moved north toward Santa Barbara, reaching the city about 5 minutes after the quake. The other wave moved south toward Santa Cruz Island, but the shape of the coastline and seafloor then unexpectedly caused the southward wave to change direction toward the cities of Ventura and Oxnard.

Related: Tsunami Could Hit California, But Not Like in 'San Andreas' Quake Movie

The simulation showed the tsunami could reach up to 23 feet (7 m) high at Ventura and Oxnard and flood up to 1.2 miles (2 km) inland less than 30 minutes after the quake, penetrating twice as far inland at some locations as California's official tsunami-inundation line.

"This is a severe, but plausible, scenario," study lead author Kenny Ryan, a geophysicist at the University of California, Riverside, told Live Science.

The scientists detailed their findings in the Aug. 18 issue of the journal Geophysical Research Letters.

This is a condensed version of a report from Live. Science. Read the full report. Follow Live Science @livescience, Facebook & Google+.

More from Live Science:

- The 10 Biggest Earthquakes in History
- Image Gallery: This Millennium's Destructive Earthquakes
- 7 Ways the Earth Changes in the Blink of an Eye

CHARLES Q. CHOI, LIVESCIENCE

TOPICS SCIENCE NEWS, U.S. NEWS

FIRST PUBLISHED SEP 8 2015, 2:38 PM ET

NEXT STORY Hot and Humid Weekend Could Have Cockroaches Flying, Experts Say

Comment Set 24

Herzog, Cynthia@SLC

From: Gillies, Eric@SLC
Sent: Monday, August 15, 2016 6:33 AM
To: Herzog, Cynthia@SLC
Subject: FW: Up to 3,500 gallons of nuclear waste leak at Washington State storage site

From: Hallie Glaze [mailto:hallieglaze@gmail.com]
Sent: Sunday, August 14, 2016 2:20 PM
To: Comments, CEQA@SLC
Subject: Fwd: Up to 3,500 gallons of nuclear waste leak at Washington State storage site

This is a catastrophe that happened recently. If you don't care about San Clemente and surrounding areas then go ahead and bury the waste right next to the ocean. There is no such thing as safe storage of nuclear waste.

https://www.rt.com/usa/340234-hanford-nuclear-waste-leak-washington/

24-1

Hallie Glaze

--

Thanks!
Hallie Glaze
CRE Virtual Services
949-542-7652
crevirtualservices.com

Comment Set 24 (Attachment)

العربية ESP РУС DE FR Applications RSS
ИНОТВ RTД RUPTLY

QUESTION MORE LIVE

15:21 GMT, Aug 15, 2016

Home / America /

'Catastrophic': Up to 3,500 gallons of nuclear waste leak at Washington State storage site

Published time: 19 Apr, 2016 15:53

© Wikipedia

2.2K 21

Thousands of gallons of radioactive waste are estimated to have leaked at a Manhattan Project-era nuclear storage tank in Washington State over the weekend, triggering an alarm and causing one former worker to label it as "catastrophic."

The expanded leak was first detected after an alarm went off at the Hanford Nuclear Reservation on Sunday, and on Monday workers were preparing to pump the waste out of the troubled area, AP reported. They were also trying to determine why the leak became worse.

It's unclear exactly how much waste spilled out, but estimates place the amount at somewhere between 3,000 and 3,500 gallons, according to the Tri-City Herald.

"There is no indication of waste leaking into the environment or risk to the public at this time," the Washington Department of Ecology said in a statement.

The problem occurred at the double-wall storage tank AY-102, which has actually been leaking since 2011. At the time, the leak was extremely small,

and the waste would dry up almost right after spilling out between the inner and outer walls, leaving a salt-like substance behind.

In March, the US Department of Energy began pumping what was left in the storage tank, which originally held some 800,000 gallons of waste. However, during this process – and after the alarms at Hanford went off – workers discovered that the leaked waste between the storage walls had reached a depth of 8.4 inches.

Pumping work on the tank has been halted as officials reevaluate the situation and figure out how to get to the leaked radioactive waste. It's possible that the leak was made worse when the pumping began, but that has not been confirmed.

Read more

Feds say cleaning up most contaminated nuclear weapons site in US is too costly

While the Department of Energy called the leak *"anticipated"* and the state Ecology Department said there was no danger to the public, the former Hanford worker who first discovered the leak had a different analysis.

"This is catastrophic," Mike Geffre told King5 News. *"This is probably the biggest event to ever happen in tank farm history. The double shell tanks were supposed to be the saviors of all saviors (to hold waste safely from people and the environment)."*

After Geffre first discovered the leak, the government contractor managing the tanks, Washington River Protection Solutions, did not acknowledge the problem until 2012. The state has been pushing the federal government to remove the remaining waste since then, but work didn't start on the project until last month.

According to the state Ecology Department, there are roughly 20,000 gallons of waste left inside the AY-102 tank.

"It makes me sad that they didn't believe me that there was a problem in 2011," said Geffre. *"I wish they would have listened to me and reacted faster. Maybe none of this would be happening now. It's an example of a culture at Hanford of 'We don't have problems here. We're doing just fine.' Which is a total lie."*

READ MORE: 'Construction flaws' in six Hanford nuclear waste tanks, 13 more may be compromised – report

Fortunately, there has been no indication that waste has made its way into a leak detection pit outside of the tank itself, the Seattle Times reported.

The Hanford Nuclear Reservation was originally constructed in 1943 as part of the Manhattan Project. After decades of producing plutonium for weapons, including the atomic bomb that was dropped on Nagasaki, Japan, millions of gallons of radioactive waste was generated by the time production stopped at the end of the Cold War. It is expected to cost billions of dollars to clean up the site over the course of decades.

Comment Set 25

W.G. Harris
27 Calle Sol
San Clemente, CA 92672
Tel (949) 361-8571

Cynthia Herzog, Senior Environmental Scientist
California State Lands Commission
100 Howe Ave., Ste 100-South
Sacramento, CA 95825

Re: SONGS Decommissioning NOP Comments

Dear Cynthia Herzog:

In your NOP, you have broken the decommissioning process down into four phases which should be completed 2051. This seems like an awful long time to me. If I have read it correctly, it is planned plan to have the main nuclear reactor containment buildings (2& 3) dismantled in Phase 1. And in Phase 2 it states, "prepare spent fuel for shipment offsite (assumes a permanent repository or interim storage location is available)".

For about the last twenty, thirty, or forty years or more, the operators and federal government have been looking for a safe storage site for the spent fuel and they have not yet found a safe place for it. So, isn't it a little presumptuous of the CSLC to assume a place to store the highly dangerous spent fuel will be found by Phase 2, when according to your NOP you plan to start shipping it offsite, and that all remaining spent fuel should be shipped offsite by 2049?

As a resident living within five miles of the SONGS facility, my greatest concern is the safe storage of the spent fuel before it gets shipped offsite, but according to your NOP plan, the safest onsite place to store the spent nuclear fuel will already have been dismantled in Phase 1. That safe storage place which I am talking about is the only relatively earthquake and disaster proof place anywhere onsite and is the main reactor domes (2&3) themselves. Whether the spent fuel is packed in canisters surrounded by concrete, or not, the fuel still has to go into the containment domes until a safe offsite repository is found. The spent fuel simply cannot be stored outside exposed to corrosive elements. And only after all the spent fuel has been shipped offsite should the reactor containment domes be dismantled, which is at the very end of the decommissioning process and not in the beginning Phase 1, as stated in your NOP.

25-1

Date: 7/21/2016

Sincerely,

W.G. Harris

Comment Set 26

Herzog, Cynthia@SLC

Subject: FW: San Onofre Nuclear Waste Disposition

From: Rose Hayes [mailto:roseohayes@aol.com]
Sent: Saturday, August 13, 2016 9:03 AM
To: Comments, CEQA@SLC
Subject: San Onofre Nuclear Waste Disposition

Please consider the following comments concerning the decommissioning of the San Onofre nuclear power plant.

San Onofre Nuclear Waste Disposition

One of the concerns that should be addressed in the upcoming environmental report on decommissioning the San Onofre nuclear power plant is the fact that there is no repository for the massive inventory of radioactive waste that will be left behind in San Clemente's backyard. When the plant's chief nuclear officer, Tom Palmisano, described a 2049 plan to remove the spent nuclear fuel stored there in the chemically controlled pool and above ground cement "dry cask systems", he was referring to the pie in the sky delay tactic that has become the mantra for the Department of Energy's (DOE) inability to develop a national repository for the nation's defense and commercial nuclear waste. That mantra has a long history and allows DOE to keep kicking the can down the road and the nuclear industry to continue chanting the thinly veiled lie that nuclear energy is cheap, safe, and clean. Back in the 1950's the Atomic Energy Commission tried to force Kansas to allow a national repository to be developed in one of the old Carey Salt mines, even though experts on the geology of the area warned that the underground aquifers often break through salt deposits and carry away the contents. In the 1980s, Congress passed what was humorously referred to as the "Screw Nevada" bill and designated Yucca Mountain as the new national repository. In 2010, after billions of spent taxpayer dollars, corruption scandals, political dog fighting, and without any alternative plan, Yucca Mountain was summarily taken off the table. There followed, a two year study by a prestigious "Blue Ribbon Committee" that came up with the novel idea that the nation needs a nuclear waste repository, but with the new twist that its location should be consent based. Their report does not indicate who should give the consent so watch your backyards! In 2013. DOE issued the Strategy For The Management And Disposal Of Used Nuclear Fuel And High-Level Radioactive Waste. That report states that, "safe, long-term management and disposal of used nuclear fuel and high-level radioactive waste must remain a national priority." It also recommends the continuing construction of new nuclear power plants. The hook comes on page two where it states that DOE, with the appropriate authorizations from Congress, will make "demonstrable progress on the siting and characterization of repository sites to facilitate the availability of a geologic repository by 2048." That is government speak for "We only plan to announce where Yucca Mountain Plan B will be located." If that happens (and don't hold your breath), it will take billions more tax dollars and several more decades of construction. However, even if Congress appropriates the funds, and DOE actually selects a site and develops a real plan, there is the consent-based issue. Who will sign up to have their community converted into a deadly landfill storing millions of lethal containers of radioactive nuclear waste that will remain toxic to humans for hundreds of thousands of years? The issue will be compounded by the fact that the longevity of the containers is unknown, but assume that they will corrode and breach long before the waste emits all its killing energy. The solution is to stop producing nuclear waste and concentrate on technological methods for cleaning up existing inventories.

26-1

Dr. Rose O. Hayes

Former Chair, Nuclear Materials Committee, DOE Site-Specific Advisory Board, Savannah River Site

Comment Set 27

Herzog, Cynthia@SLC

Subject: FW: SAN ONOFRE NUCLEAR GENERATING STATION UNITS 2 & 3 POST-SHUTDOWN DECOMMISSIONING PROJECT

-----Original Message-----
From: Ace Hoffman [mailto:rhoffman@animatedsoftware.com]
Sent: Monday, August 15, 2016 9:02 PM
Subject: SAN ONOFRE NUCLEAR GENERATING STATION UNITS 2 & 3 POST-SHUTDOWN DECOMMISSIONING PROJECT

Cynthia Herzog
Senior Environmental Scientist
California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825

Dear Cynthia Herzog,

I understand you are the liaison for the San Onofre decommissioning project at the SLC.

Below is an expansion of the comments I made at the public hearing in Oceanside that was held on July 26, 2016. I understand that comments can be accepted until midnight tonight. These comments were originally addressed to the U.S. Department of Energy but apply to the San Onofre decommissioning as well.

Thank you in advance,

Ace Hoffman
Carlsbad, CA

==========

The idea that future generations, 500,000 years or more from now, can "consent" to having nuclear waste placed in their midst is ludicrous. And at the rate we are generating nuclear waste (about 10 tons per day in the U.S.A.; 50 tons per day globally) there isn't enough space on this planet to store all the waste that already exists, let alone what will be produced over the next few decades, centuries, and millennia.

Transporting all that waste represents yet another hazard that the public should have a right to consent -- or not -- to, but who in their right mind will want hundreds or even thousands of shipments of nuclear waste going through their community -- especially since there is zero likelihood that those communities will be reimbursed for the risk they take of having their neighborhoods permanently contaminated if there is an accident along the way?

27-1

And speaking of reimbursement, how far into the future does the DOE expect to compensate a community for taking the waste for "interim" storage? America has tried for more than 50 years to find a permanent repository, and Yucca Mountain was a scientific failure, not just a political one. There were groundwater seepage issues, rainwater leakage issues, volcanic activity nearby, earthquakes, and metallurgical issues that could not be dealt with for the time frames necessary to store the waste.

The Yucca Mountain project was strongly opposed in Nevada, and no other community in the country has ever stepped up to willingly become a permanent nuclear waste repository -- and only a few locations could even be considered because of the incredible difficulty -- no, impossibility -- in predicting how the earth will behave for the many millennia

the waste will remain toxic. And all locations are susceptible to asteroid impacts and earthquakes, so really there is no safe place for nuclear waste.

And everybody knows it.

There are two broad categories of radioactive hazards in spent nuclear fuel. One is the fissionable isotopes, and the other is the fission products themselves.

Regarding the fissionable isotopes, there are two main concerns. One is the proliferation risk that the waste will be stolen, the fissionable isotopes isolated (possibly by a newly-developed laser separation process, which does not require hundreds of centrifuges and massive industrial installations to accomplish). A nuclear bomb can then be made from the enriched product of the separation process.

The other problem with the fissionable isotopes is that if nothing is done about the Uranium-235 and Plutonium-239 in the spent fuel, the proliferation risk will continue for thousands of years, since the half-life of U-235 is about 700 million years, and the half life of Pu-239 is about 24,100 years. But something CAN be done: Using a laser which is emitting photons in the 10 to 15 MeV range, these two isotopes can be safely fissioned in a controlled manner, while the spent fuel is still in the fuel rods.

Although such lasers do not currently exist, there is little doubt they could be developed, and there is no doubt the process would work because the breakdown of these isotopes has been proven with other methods such as with a linear accelerator. The process does not even take very long and can produce waste energy which can be harnessed to mitigate some or all of the cost.

By eliminating these two isotopes using the method described above, which has a patent pending filed by Peter M. Livingston, a scientist who witnessed a number of bomb tests at the Nevada Test Site and has studied the problem for many years, the two greatest difficulties with spent fuel are almost completely eliminated: The long term storage problem, and the proliferation risk.

27-1 (cont.)

What is left are the fission products. Most of these have half-lives of three decades or less (there are a few, which I call the ignoble seven, with half-lives of many millennia or even a million years or more, but these are present in only trace amounts).

Within about six centuries, almost all of the fission products will have decayed to stable elements. Thus, the longest that an interim OR permanent waste repository would need to be carefully monitored would be about 600 years. Granted, that's no piece of cake, considering our nation is only about 240 years old and most of our buildings, roads, dams, bridges and other infrastructure, much of which is well under 50 years old, is already crumbling -- but it's much more manageable than 500,000 years, a length of time so enormous that nobody can predict the consequences of trying to store hazardous waste that long.

Below is a link to Peter Livingston's patent for a process to neutralize the fissionable isotopes in spent fuel.

Under no circumstances should this suggestion encourage the production of more nuclear waste. During reactor operation, nothing is more dangerous than a superheated 150-ton pile of super-critical nuclear fuel, and when the fuel is first removed from the reactor, the remaining short-lived fission products keep the fuel assemblies so thermally hot that a spent fuel fire could occur at any time unless the fuel is safely stored deep under water. Such an event would be catastrophic, as we have seen in Chernobyl, Fukushima, Three Mile Island and elsewhere. A spent fuel pool or dry cask storage facility fire could be worse than all of those events combined. Dry casks and spent fuel pools are subject to risks from airplane strikes, earthquakes, tsunamis, terrorism, and even just manufacturing errors.

There are numerous cleaner, cheaper, more manageable methods for generating electricity -- even for propulsion on aircraft carriers and submarines. With some 600 military bases around the globe, our aircraft can already quickly reach

any point on the planet without the need of aircraft carriers at all, and for stealth operation, a nuclear submarine has to shut off its nuclear reactor anyway, and operate on batteries. Both ships and subs normally have to stay with a large fleet of non-nuclear ships such as landing craft transporters, oilers, mine sweepers, frigates, destroyers, etc.. And even though they are considered "robust," a nuclear reactor on board a ship or sub can melt down, causing a catastrophic release of radiation which will spread throughout the oceans. This has probably already happened, although the evidence is impossible to accurately obtain, but more than half a dozen nuclear subs have been lost at sea, including two U.S. submarines, and in all cases, the exact cause of the catastrophe has not been positively ascertained.

Iran doesn't need nuclear power, China doesn't need nuclear power, Russia doesn't need nuclear power. Most people in Japan probably wish they never had nuclear power. Nobody else needs it, and we certainly don't need it.

27-1 (cont.)

The Department of Energy has been unable to solve the problem of nuclear waste, despite more than half a century and tens of billions of dollars of prior effort. This is because nuclear radiation destroys any molecular or chemical bond in the universe. DoE made a hollow promise to take back the nuclear waste from commercial reactors, a promise they have never kept and are now paying hundreds of millions of dollars per reactor for. It is time to eliminate that promise because nuclear waste cannot be safely kept -- and eliminating that promise would IMMEDIATELY cause the shut down all remaining commercial reactors. That would be a good thing.

No community will ever want nuclear waste. No consent can ever be given by people as yet unborn. No one can predict the consequences of storing anything anywhere for 500,000 years.

Ace Hoffman
Carlsbad, CA

URL for Dr. Peter M. Livingston's patent application for reducing the storage time of spent nuclear fuel:
http://goo.gl/7ro0tZ (goes to the USPTO).

Ace Hoffman, computer programmer,
author, The Code Killers:
An Expose of the Nuclear Industry
Free download: acehoffman.org
Blog: acehoffman.blogspot.com
YouTube: youtube.com/user/AceHoffman
Phone: (760) 720-7261
Address: PO Box 1936, Carlsbad, CA 92018 Subscribe to my free newsletter today!
Email: ace [at] acehoffman.org
To unsubscribe:
Send "Unsubscribe" in subject line.

Comment Set 27 (Attachment)

Submitted by:
Ace Hoffman
POB 1936
Carlsbad, CA 92018

ACRSR-1885

April 13, 2000

The Honorable Richard A. Meserve
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Chairman Meserve:

SUBJECT: DRAFT FINAL TECHNICAL STUDY OF SPENT FUEL POOL ACCIDENT RISK AT DECOMMISSIONING NUCLEAR POWER PLANTS

During the 471st meeting of the Advisory Committee on Reactor Safeguards, April 5-7, 2000, we met with representatives of the NRC staff and discussed the subject document. We also had the benefit of the documents referenced, which include the available stakeholders comments. This report is in response to the Commission's request in the Staff Requirements Memorandum dated December 21, 1999, that the ACRS perform a technical review of the validity of the draft study and risk objectives.

BACKGROUND

Decommissioning plants are subject to many of the same regulatory requirements as operating nuclear plants. Because of the expectation that the risk will be lower at decommissioning plants, particularly as time progresses to allow additional decay of fission products, some of these requirements may be inappropriate. Exemptions from the regulations are frequently requested by licensees after a nuclear power plant is permanently shut down. To increase the efficiency and effectiveness of decommissioning regulations, the staff has engaged in rulemaking activities that would reduce the need to routinely process exemptions. The staff has undertaken the technical study and risk analysis discussed here to provide a firm technical basis for rulemaking concerning several exemption issues.

In the draft study the staff has concluded that, provided certain industry decommissioning commitments are implemented at the plants, after one year of decay time the risk associated with spent fuel pool fires is sufficiently low that emergency planning requirements can be significantly reduced. It also concluded that after five years the risk of zirconium fires is negligible even if the fuel is uncovered and that requirements intended to ensure spent fuel cooling can be reduced.

RECOMMENDATIONS

1. The integrated rulemaking on decommissioning should be put on hold until the staff provides technical justification for the proposed acceptance criterion for fuel uncovery frequency. In particular, the staff needs to incorporate the effects of enhanced release of ruthenium under air-oxidation conditions and the impact of the MELCOR Accident

Consequence Code System (MACCS) code assumptions on plume-related parameters in view of the results of expert elicitation.

2. The technical basis underlying the zirconium-air interactions and the criteria for ignition needs to be strengthened. In particular, the potential impact of zirconium-hydrides in high burnup fuel and the susceptibility of the clad to breakaway oxidation need to be addressed.

3. Uncertainties in the risk assessment need to be quantified and made part of the decisionmaking process.

DISCUSSION

The staff's conclusion that the risk after one year of decay time is sufficiently low that emergency planning requirements can be reduced is based partially on the assessed value of fuel uncovery frequency (3.4×10^{-6}/yr) being less than the Regulatory Guide 1.174 large, early release frequency (LERF) acceptance value (1×10^{-5}/yr). This LERF risk-acceptance value was derived to be a surrogate for the Safety Goal early fatality quantitative health objectives (QHO) *for operating reactors*. The derivation from the QHO is based, however, on the fission product releases that occur under severe accident conditions which are driven by steam oxidation of the zircaloy and the fuel. These releases include only insignificant amounts of ruthenium. Under air-oxidation conditions of spent fuel fires, significant data indicate much enhanced releases of ruthenium as the very volatile oxide. Indications are that, under air oxidation conditions, the release fractions of ruthenium may be equivalent to those for iodine and cesium. In the accident at Chernobyl significant releases of ruthenium were observed and attributed to the interactions of fuel with air.

These findings have significant implications. The ruthenium inventory in spent fuel is substantial. Ruthenium has a biological effectiveness equivalent to that of Iodine-131 and has a relatively long half-life. If there are significant releases of ruthenium, the Regulatory Guide 1.174 LERF value may not be an appropriate surrogate for the prompt fatality QHO. In addition, because of the relatively long half-life of ruthenium-106, it is likely that the early fatality QHO would no longer be the controlling consequence.

In response to our concerns about the effects of substantial ruthenium release, the staff has made additional MACCS calculations in which it assumed 100 percent release of the ruthenium inventory. For a one-year decay time with no evacuation, the prompt fatalities increased by two orders of magnitude over those in the report which did not include ruthenium release, the societal dose doubled and the cancer fatalities increased four-fold.

Our concern is not just with ruthenium. We are concerned with the appropriateness of the entire source term used in the study. There is a known tendency for uranium dioxide in air to decrepitate into fine particles. The decrepitation is caused by lattice strains produced as the dioxide reacts to form U_3O_8. This decrepitation is a bane of thermogravimetric studies of air oxidation of uranium dioxide since it can cause fine particles to be entrained in the flowing air of the apparatus. This suggests that decrepitating fuel would be readily entrained in vigorous natural convection flows produced in an accident at a spent fuel pool. The decrepitation process provides a low-temperature, mechanical, release mechanism for even very refractory

radionuclides. The staff did consider the possibility that "fuel fines" could be released from fuel with ruptured cladding. It did not, however, believe these fuel fines could escape the plant site. Nevertheless, the staff considered the effect of a $6x10^{-6}$ release fraction of fines. This minuscule release fraction did not significantly affect the calculated findings. There is no reason to think that such a low release fraction would be encountered with decrepitating fuel.

Consequences of accidents involving a spent fuel pool were analyzed using the MACCS code. The staff has completed an expert opinion elicitation regarding the uncertainties associated with many of the critical features of the MACCS code. The findings of this elicitation seem not to have been considered in the analyses of the spent fuel pool accident. One of the uncertainties in MACCS identified by the experts is associated with the spread of the radioactive plume from a power plant site. The spread expected by the experts is much larger than what is taken as the default spread in the MACCS calculations. There is no indication that the staff took this finding into account in preparing the consequence analyses. In addition, the initial plume energy assumed in the MACCS calculations, which determines the extent of plume rise, was taken to be the same as that of a reactor accident rather than one appropriate for a zirconium fire. We suspect, therefore, that the consequences found by the staff tend to overestimate prompt fatalities and underestimate land contamination and latent fatalities just because of the narrow plume used in the MACCS calculations and the assumed default plume energy.

The staff needs to review the air oxidation fission products release data from Oak Ridge National Laboratory and from Canada that found large releases of cesium, tellurium, and ruthenium at temperatures lower than 1000 ^{0}C. Based on these release values for ruthenium, and incorporating uncertainties in the MACCS plume dispersal models, the consequence analyses should be redone.

Based on the results of this reevaluation of the consequences, the staff should determine an appropriate LERF for spent fuel fires that properly reflects the prompt fatality QHO and the potential for land contamination and latent fatalities associated with spent fuel pool fires.

In developing risk-acceptance criteria associated with spent fuel fires, the staff should also keep in mind such factors as the relatively small number of decommissioning plants to be expected at any given time and the short time at which they are vulnerable to a spent fuel pool fire.

We also have difficulties with the analysis performed to determine the time at which the risk of zirconium fires becomes negligible. In previous interactions with the staff on this study, we indicated that there were issues associated with the formation of zirconium-hydride precipitates in the cladding of fuel especially when that fuel has been taken to high burnups. Many metal hydrides are spontaneously combustible in air. Spontaneous combustion of zirconium-hydrides would render moot the issue of "ignition" temperature that is the focus of the staff analysis of air interactions with exposed cladding. The staff has neglected the issue of hydrides and suggested that uncertainties in the critical decay heat times and the critical temperatures can be found by sensitivity analyses. Sensitivity analyses with models lacking essential physics and chemistry would be of little use in determining the real uncertainties.

The staff analysis of the interaction of air with cladding has relied on relatively geriatric work. Much more is known now about air interactions with cladding. This greater knowledge has come in no small part from studies being performed as part of a cooperative international

program (PHEBUS FP) in which NRC is a partner. Among the findings of this work is that nitrogen from air depleted of oxygen will interact exothermically with zircaloy cladding. The reaction of zirconium with nitrogen is exothermic by about 86,000 calories per mole of zirconium reacted. Because the heat required to raise zirconium from room temperature to melting is only about 18,000 calories per mole, the reaction enthalpy with nitrogen is ample. In air-starved conditions, the reaction of air with zirconium produces a duplex film in which the outer layer is zirconium dioxide (ZrO_2) and the inner layer is the crystallographically different compound zirconium nitride (ZrN). The microscopic strains within this duplex layer can lead to exfoliation of the protective oxide layer and reaction rates that deviate from parabolic rates. These findings may well explain the well-known tendency for zirconium to undergo breakaway oxidation in air whereas no such tendency is encountered in either steam or in pure oxygen. Because of these findings, we do not accept the staff's claim that it has performed "bounding" calculations of the heatup of Zircaloy clad fuel even when it neglects heat losses.

The staff focuses its analysis of the reactions of gases with fuel cladding on a quantity they call an "ignition temperature." The claim is that this is the temperature of self-sustained reaction of gas with the clad. Gases will react with the cladding at all temperatures. In fact, at temperatures well below the "conservative ignition temperature" identified by the staff, air and oxygen will react with the cladding quite smoothly and at rates sufficient to measure. Data in these temperature ranges well below the "ignition" temperature form much of the basis for the correlations of parabolic reaction rates with temperature. We believe that the staff should look for a condition such that the increase with temperature of the heat liberation rate by the reaction of gas with the clad exceeds the increase with temperature of the rate of heat losses by radiation and convection. Finding this condition requires that there be high quality analyses of the heat losses and that the heat of reaction be properly calculated. Since staff has neglected any reaction with nitrogen and did not consider breakaway oxidation (causes for the deviations from parabolic reaction rates), it has not made an appropriate analysis to find this "ignition temperature."

In fact, the search for the ignition temperature may be the wrong criterion for the analysis. The staff should also be looking for the point at which cladding ruptures and fission products can be released. Some fraction of the cladding may be ruptured before any exposure of the fuel to air occurs. Even discounting this, one still arrives at much lower temperature criteria for concern over the possible release of radionuclides.

There are other flaws in the material interactions analyses performed as part of the study. For instance, in examining the effects of aluminum melting, the staff seems to not recognize that there is a very exothermic intermetallic reaction between molten aluminum and stainless steel. Compound formation in the Al-Zr system suggests a strong intermetallic reaction of molten aluminum with fuel cladding as well. The staff focuses on eutectic formations when, in fact, intermetallic reactions are more germane to the issues at hand.

We are concerned about the conservative treatment of seismic issues. Risk-informed decisionmaking regarding the spent fuel pool fire issues should use realistic analysis, including an uncertainty assessment.

Because the accident analysis is dominated by sequences involving human errors and seismic events which involve large uncertainties, the absence of an uncertainty analysis of the

frequencies of accidents is unacceptable. The study is inadequate until there is a defensible uncertainty analysis.

The risk posed by fuel uncovery in spent fuel pools for decommissioning plants may indeed be low, however, the technical shortcomings of this study are significant and sufficient for us to recommend that rulemaking be put on hold until the inadequacies discussed herein are addressed by the staff.

Sincerely

/RA/

Dana A. Powers
Chairman

References:

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2. SECY-99-168, dated June 30, 1999, memorandum from William D. Travers, Executive Director for Operations, NRC, for the Commissioners, Subject: Improving Decommissioning Regulations For Nuclear Power Plants.
3. Memorandum dated December 21, 1999, from Anette L. Vietti-Cook, Secretary of the Commission, to William D. Travers, Executive Director for Operations, NRC, Subject: Staff Requirements -SECY-99-168 - Improving Decommissioning Regulations for Nuclear Power Plants.
4. Letter dated November 12, 1999, from Dana A. Powers, Chairman, ACRS, to William D. Travers, Executive Director for Operations, NRC, Subject: Spent Fuel Fires Associated With Decommissioning.
5. Letter dated December 16, 1999, from William D. Travers, Executive Director for Operations, NRC, to Dana A. Powers, Chairman, ACRS, Subject: Spent Fuel Fires Associated With Decommissioning.
6. E-mail message dated April 5, 2000, from Alan Nelson, Nuclear Energy Institute, to M. El-Zeftawy, ACRS, transmitting NEI comments on Appendix 2.b, "Structural Integrity Seismic Loads."
7. U. S. Nuclear Regulatory Commission, NUREG/CR-6613, "Code Manual for MACCS2, May 1998.
8. U. S. Department of Commerce, "JANAF Thermochemical Tables," Second Edition, Issued June 1971.
9. U. S. Nuclear Regulatory Commission, NUREG/CP-0149, Vol. 2 "Twenty-Third Water Reactor Safety Information Meeting," October 23-25, 1995, "The Severe Accident Research Programme PHEBUS FP.: First Results and Future Tests," published March 1996.
10. U. S. Nuclear Regulatory Commission, NUREG/CR-6244, Vol. 1, "Probabilistic Accident Consequence Uncertainty Analysis," Dispersion and Deposition Uncertainty Assessment, published January 1995.
11. U. S. Nuclear Regulatory Commission, Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," July 1998.

Comment Set 28

From: Otrkennedy@aol.com [mailto:Otrkennedy@aol.com]
Sent: Tuesday, October 25, 2016 10:21 AM
To: Gillies, Eric@SLC
Subject: CEQA documents MISSING Englewood FAULT REPTURE [just waiting]

Greetings Mr Gillies:

Regarding San Onofre Nuclear "plant shut down". Your CEQA documents are

MISSING ANY SERIOUS WORK ON A **Englewood FAULT REPTURE. [its just waiting]**

In talking on line with some Plate Tech Tonics, guys, During the Japanese Plant destruction, They worked on it , next day there best work was 40 foot wave's. For a extended period of time, as the mountain range in this area slips and avalanches, in this deep sea canyon area. The existing 20 foot sea wall is deadly inadequate.

Work with the Marines, for a location on the western edge of there base to put in your new storage area. They under stand risk reward in battle. And this Englewood FAULT, has the power to destroy there base. And destroy everything to the east, as the westerly wind's spread the contamination.

28-1

1 760 725-4637 Camp Pendleton Environmental Office

Ronald D Kennedy

760-723-4357

otrkennedy@aol.com

4741 Sleeping Indian RD
Fallbrook CA. 92028

Comment Set 29

Herzog, Cynthia@SLC

From:	Marni Magda <marnimagda@gmail.com>
Sent:	Friday, August 12, 2016 10:19 AM
To:	CEQUAcomments@slc.ca.gov
Cc:	Marni Magda; Oggins, Cy@SLC; Herzog, Cynthia@SLC
Subject:	SONGS Decommissioning NOP Comments
Attachments:	State Lands Commission EIR for SONGS August 9 2016.docx

Dear Cynthia and Cy and the CSLC SONGS EIR Team,

Please find my concerns as a citizen attending meetings since 2011 about the shut down and then the SCE plans for decommissioning at SONGS.

I appreciate all of your efforts on behalf of our California coast.

Best Regards,
Marni Magda
949 230 9181
marnimagda@gmail.com

August 9, 2016

SONGS Decommissioning NOP Comments

Cynthia Herzog Senior Environmental Scientist
Cynthia.Herzog@slc.ca.gov
916 574-1890

Project Title: San Onofre Nuclear Generating Station Units 2 & 3 Post-Shutdown Decommissioning Project
File Ref: SCH No. 2016071025
CSLC EIR No. 784; W30209

Dear State Lands Commissioners and the CSLC Staff preparing the EIR for SONGS,

Please use your full authority to correct the SONGS Post Shutdown Action Report (PSDAR) that has been accepted by our Nuclear Regulatory Commission (NRC) since 2014. Many of activities of the four phases of the Decommissioning are in the wrong order to protect our ocean environment and public safety. The spent nuclear fuel (SNF) that will be stored temporarily in an Independent Spent Fuel Storage Installation (ISFSI) 36 yards from the ocean must all be removed before the protections now at SONGS are removed. The NRC has refused to protect us. It is up to our California institutions to use their power to influence the SONGS decommissioning process. **29-1**

SCE has 60 years to take down the domes. Why are roads, spent fuel pools, parking lots, tunnels, public walkways and a seawall being taken down before we have the dangerous spent fuel removed from SONGS? SCE's original plan included removal of all railroad and switching yards. I'm relieved to see they will be upgrading those connections to ensure the removal of the spent nuclear fuel stored at SONGS to the border where the Department of Energy (DOE) will take responsibility for it. **29-2**

Please in the EIR address the weight of the Holtec dry canisters and their overpack casks to be sure they can be moved safely from the bluff of San Onofre. The canisters are enormous and experimental. The system to half bury them on the bluff in the expanded ISFSI is experimental. At a NRC hearing the cement experts discussing cement degradation did not know if or how often the cement structure should be checked for ground water degradation or if digging out a section on the bluff to check the canisters was safe. Did any plan ever get written for this environment hazard? **29-3**

No one knows what groundwater and salt water corrosion will do to destabilize the ISSFI in the next 20 years. Continual ground water tests must be a part of the EIR. Fire storm prevention must also be a part of the EIR. SCE at SONGS had to evacuate buildings during a fire above the site. What protections can you impose to make sure the abandoned ISFSI and 24 /7 observation system are not shut down by fire? Currently the water tanks for protection against a fire storm are to be removed before the SNF is

removed. Please make the EIR address these problems. All fire protection is being removed too soon. Get the fuel out first!! **29-3 (cont.)**

SCE must be made to have roads, cranes, cooling pool for damaged canister emersion and railroad tracks that get the canisters from the ISFSI to the border railroad track where the DOE will take possession of the canisters. By Federal law the SLC can't address radiation issues, but those enormous canisters if something fails, and they are rolling in the ocean with storm surf, they will destroy whatever they hit. The NRC gives the all clear to leave those canisters on the bluff forever, stating it is safe to leave them for 300 years or indefinitely. They accept an EIR that states that there are no above "small" environmental hazards at SONGS. That is ridiculous!! In one report I read they were using 1957 data. **29-4**

Please include in your EIR the California Energy Commission report by Rob Oglesby on June 22, 2016 at the CEP meeting about California earthquake predictions. It warns that California has a 99.7% chance of a 6.7 or larger earthquake in the next 30 years. SONGS buildings are only guaranteed against a 7.0 earthquake. The NRC is only focused on radiation and believes the pools and canisters won't spew radiation to local populations. I hope they are right, but canisters melted or floating (Would they float?) or submerged on the rocks in the ocean in storm surf ruin our beach where your jurisdiction lies.

Unit 1 shut down in 1992 is still buried under ISFSI in the North Industrial Area (NIA). Unit 1 is listed as IN PROGRESS Decommissioning by the NRC. Will the remaining structures of Unit 1 be removed after the ISFSI is removed? What testing has been done to make sure the ocean environment has recovered from the removal of most of the radiated structure by 2009? It was shut down in 1992. The unit 1 conduit was just dispositioned in 2014. What does that mean? They were given permission to leave the pipes underground but just now they have fixed something? What? Why? **29-5**

For many years UCSB Steve Schroeter and Dan Reed have conducted the study to evaluate the SONGS Artificial Reef Mitigation Project, Wheeler North Reef. SCE has not been given one year of credit for mitigation. The project has failed to recover an environment that lost 360 acres of kelp forest and the inhabitants. This mitigation project is in San Clemente, not at San Onofre. It looked promising until 2000 and 2001 when the recovery statistics dropped dramatically. Why? No one was testing the water for pollution. Only the NRC can test for radiation levels. The Unit 1 conduit is approximately 3000 feet into the ocean. That environment has not been disrupted by an active reactor since 1992. The SLC EIR must include underwater photos of the environment to make sure it is recovering as proof that the plan to leave the pipe in place under the ocean has been successful. **29-6**

The SCE independent radiation survey of the Unit 1 conduit structures was conducted by Chesapeake Nuclear Services in October 2005. SLC scientists must review this document as stakeholders caring for our ocean. When the cement of the conduit structures was tested (floor, wall. ceiling) was that outside of the 18 foot wide pipe or inside where the radiated water was dispersed for 24 years? Was the outtake pipe tested or just the intake pipe? The public was not watching at this time. Most of the public just thought San Onofre was shut down and the government would take care of safety. Fukushima awakened many of us to the danger of assuming safety was defense in depth. Reports at the **29-7**

NRC get passed on because of many pressures. The Unit 1 radiation survey in October of 2005 was "sufficient" to cover the requirements of a MARSSIM (Multi-Agency Radiation Survey and Site Investigation). These decisions must be reviewed by SLC whose salaries are not paid by the nuclear industry. If this sounds harsh, remember the NRC still says there are no significant environmental hazards at San Onofre. We have proof that is not true. This is the time to set the precedent for the nation's aging reactors as they all come off line. If the inside of the unit 2 and 3 outtake pipes are not radiated and our ocean will recover then the SCE plan need only be evaluated on centuries of coastal erosion and how the pipes extending 8, 400 feet into the ocean might be a hazard.

29-7 (cont.)

The SLC EIR must include pictures taken underwater of the environment along the Unit 1, Unit 2 and Unit 3 conduits. Unit 2 extends in the ocean 8,400 feet. Unit 3 is 6,000 feet. Unit 1 was 3000 feet. Why were the outtake pipes that were built in 1982 extended so much farther into the ocean? What is happening to our ocean where these pipes have been for over 30 years?

On July 20, 2016 Manuel Camargo of SCE advised the CEP that Manson Construction would be installing mammal exclusion barriers over the offshore cooling water intakes at the San Onofre nuclear plant for the State Water Resources Control Board's once through cooling policy. Why now and not in 1968? SONGS is no longer taking in a billion gallons of ocean a day as it did for over 30 years. What habit has survived? I ask that you also review Diablo that is still taking in over two billion gallons of water a day with hot reactors. Leave the pipes at San Onofre if the ocean has recovered in the mile and a half the pipe extends into the ocean. But test it all. The disruption to all of us and the ocean environment now if the environment has not recovered is more important than leaving a dead system for centuries. The money must be spent and we must suffer the shorter disruption.

29-8

The NRC regulation on radiation allows dumping of radiated water in our ocean. It is called ALARA, As Little As Reasonably Achievable. Tom Palmisano of SCE has told us that the water in the cooling pool holding all of the assembly rods while they cool, will be dumped in the ocean when all the rods are removed to dry storage. He said not to worry the contaminated water would be diluted. He admitted that contaminated water has gone into the ocean for 30 years, ALARA. Lease PRC 6785 allows CSLC to request full removal of the pipes. Why has SCE asked for a lease term beyond 2023 for use of the conduits during decommissioning? What contaminated water will be released into our ocean during the decommissioning process?

29-9

Please make sure your EIR has underwater pictures every 20 yards going all the way out to the end of the intake and outtake pipes for units 1, 2 and3. What habitat do we have? Please ask for NRC studies of the cement contamination of the Units 2 and 3 intake and outtake pipes for your EIR and that the old data of Unit 1 not be sufficient evidence. If the habitat is still dead, something is wrong. The pipes may be the problem. Please make a thorough investigation of the current ocean status along the intake and outtake pipes. And don't let SCE off of its Wheeler Reef Mitigation promise that has failed.

29-10

Please protect public access along our coast. Why is the public access walkway being removed at all? It should be left in place.

29-11

The plan to remove the seawall must be delayed until the SNF in the dry storage ISFSI is removed. When that happens RIPRAP is planned to be removed only above the surface of the beach?!! Our sand moves 15 feet in one night along this part of the California coast. What is the surface of the beach supposed to mean? Please make sure the EIR studies the need to remove all of the seawall RIPRAP under surface as well as at the surface of the ocean. People will not be able to negotiate climbing over RIPRAP along the ocean shore as sand comes and goes.

29-11 (cont.)

Thank you for your diligent work protecting our California coast. The changes to our ocean since 2000 have been devastating to watch. The California Coastal Commission permit for SONGS ISFSI comes up for amendment in 2035. Twenty years sounds like a reasonable time until we look at life times. I will be 89 if I'm lucky to see that age. Too many decision makers will be gone. Please use your authority to help the public force our government to find a Consolidated Interim Storage (CIS) plan to get the spent nuclear fuel removed from our California coast while a final depository is being developed. Please put forward as an alternate plan recommended for the current Phases of the PSDAR that all spent nuclear fuel be removed from San Onofre between 2021 and 2031 as SCE has stated it will be ready to do if the DOE is ready to accept it. The main focus of all of our efforts must be to protect our ocean by getting the dangerous spent nuclear fuel removed to CIS.

29-12

Best Regards,

Marni Magda
Concerned Citizen

Comment Set 30

Herzog, Cynthia@SLC

From: Barbara Metzger <barbara.metzger@att.net>
Sent: Sunday, August 14, 2016 4:58 PM
To: Herzog, Cynthia@SLC
Subject: Fwd: San Onofre decommissioning

-------- Forwarded Message --------
Subject: San Onofre decommissioning
Date: Sun, 14 Aug 2016 16:45:34 -0700
From: Barbara Metzger <barbara.metzger@att.net>
To: Cynthia Herzog <cynthia.herzog@slc.ca.gov>

Barbara Metzger
2669 Nido Way
Laguna Beach, CA 92651

August 14, 2016

Cynthia Herzog
California State Lands Commission
CEQAcomments@slc.ca.gov
File Ref: SCH No. 2016071025, CSLC EIR No. 784, W30209

Dear Ms. Herzog,

The decommissioning of the San Onofre nuclear power plant is expected to include the removal of the spent fuel rods that are now being stored on the site by 2051. However, there is at present no other storage facility to accept the nuclear waste; the railroad cars that would carry it have not yet been designed; and there is reason to believe that the canisters in which it will be buried are not the strongest possible, and in granting the permit for the work the Coastal Commission did not investigate the possibility that safer alternatives might be available. Once the rods are buried, there will be no way to determine whether they are leaking. If the storage casks become degraded to the point of becoming unsafe to transport, SCE may not be able to remove them by 2051 as planned and they may have to remain on the site for decades. **30-1**

To address this problem, the Coastal Commission added a condition that SCE return in twenty years for a permit amendment that will include an alternatives analysis, assessment of coastal hazards and managed retreat, information on the physical condition of the storage casks and a maintenance and monitoring program, and proposed measures to avoid/minimize visual resource impacts (Summary of Staff Recommendations, California Coastal Commission, Application No. 9-15-0228, September 25, 2015, p. 2). Several commissioners objected that twenty years was too long to wait for a plan of this kind, and I heartily agree.

The co-participants are said to be "proceeding under the assumption that all spent fuel will be shipped offsite by 2049" (Project Description, p. 13), and accordingly the proposed EIR treats the stored fuel as presenting no environmental problems.

I hope that the EIR will include consideration of the possible impacts of the storage method planned, that it will investigate the possible alternatives to the approved casks, and that it will require that, before the casks are buried, the company has a method of testing them for leakage and a maintenance plan.

30-1 (cont.)

I appreciate being included in the process and look forward to receiving notice of the draft EIR when it is released.

Sincerely,

Barbara Metzger

Comment Set 31

Herzog, Cynthia@SLC

Subject: FW: Southern California Edison Clean Up Your Mistakes

-----Original Message-----
From: Rita Pescador [mailto:rlpescador@dc.rr.com]
Sent: Monday, August 15, 2016 7:30 PM
To: Comments, CEQA@SLC
Subject: Southern California Edison Clean Up Your Mistakes

I am an senior citizen homeowner in San Clemente.
How can So.Cal.Edison be allowed to "walk away" from San Onofre nuclear waste?
Please don't allow this to potentially harm our Ocean and God forbid our health.
Safety of our area with high population should be #1 concern.
If I'm dead due to San Onofre's leaks you and those who allowed this to happen will hear from my family who live in other areas.
Thank you for protecting me and my neighbors.
Respectfully,
Rita Pesacdor
881 Calle Pluma
San Clemente, Ca 92673
Sent from my iPad

31-1

PUBLIC SCOPING MEETING

for

ENVIRONMENTAL IMPACT REPORT

SONGS DECOMMISSIONING PROJECT

Presented By

CALIFORNIA STATE LANDS COMMISSION

Transcript of Proceedings

Oceanside, California

Tuesday, July 26, 2016

Reported by:

Alicia Pabich

CSR No. 13854

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PUBLIC SCOPING MEETING

for

ENVIRONMENTAL IMPACT REPORT

SONGS DECOMMISSIONING PROJECT

Presented By

CALIFORNIA STATE LANDS COMMISSION

Transcript of proceedings taken at 300 North Coast Highway, Oceanside, California, beginning at 6:00 p.m., Tuesday, July 26, 2016, before Alicia Pabich, Certified Shorthand Reporter No. 13854.

PANEL MEMBERS PRESENT:

CYNTHIA HERZOG
Senior Environmental Scientist
California State Lands Commission
CY OGGINS
Chief of the Division
California State Lands Commission
KELLY KEEN
Deputy Project Manager
California State Lands Commission
JON DAVIDSON
Aspen Environmental Group

ALSO PRESENT:

TOM PALMISANO
Vice President of Decommissioning and
Chief Nuclear Officer
Southern California Edison

PUBLIC COMMENT SPEAKERS:

PETER STOUP, Post Ignorance Group
RICK WILSON, Surfrider Foundation
RAY LUTZ, Citizens' Oversight
NINA BAIARZ, Women's Transportation Seminar
CHARLES LANGLEY, Public Watchdogs
ACE HOFFMAN, acehoffman.org
GREG ALEXANDER, Oceanside Resident
DANIEL BEEMAN, Constitute & Ratepayer

Oceanside, California

Tuesday, July 26, 2016, 6:00 p.m. - 7:05 p.m.

MS. CYNTHIA HERZOG: Good evening everyone. Welcome, and thank you for coming. At this time we will open up the Public Scoping Meeting for the San Onofre Nuclear Generating Station Decommissioning Project. It's July 26th at 6:00 p.m. My name is Cynthia Herzog, I'm a Senior Environmental Scientist for the California State Lands Commission, or the CSLC, in the Division of the Environmental Planning and Management. I will be open to seeing the preparation of the environmental documents in compliance with the California Environmental Quality Act, or CEQA. With me today from the CSLC are Cy Oggins, who is the Chief of our division, and Kelly Keen, who is our Deputy Project Manager. Also with us today is the consultant team for the CSLC for the preparation of the environmental documents, Aspen Environmental Group, headed by Jon Davidson.

The agenda for this meeting will be shown, as on the slides, with this brief introduction and opportunity for the applicant to address the public and describe the proposed project, a review of the Environmental Impact Report, or EIR process. And the public comment period for individuals who have filled out speaker slips will have the opportunity to provide their comments on the project, followed by the close

of the meeting. The CSLC will act as the CEQA Lead Agency and the staff will be reviewing the holes of the project in the EIR. The existing intake and discharged pipelines, and a portion of the riprap along the shoreline within the project area are located on sovereign lands owned by the state of California. The Commission has jurisdiction and management authority over these areas.

The existing onshore facilities are subject to an easement with the U.S. Department of the Navy, which expires in 2024. The project applicant is Southern California Edison, or SCE, on behalf of the Coast of Pacific of SONGS Decommissioning Agreement, which includes the SCE, San Diego Gas & Electric Company, the city of Anaheim, and the city of Riverside. The purpose of this meeting is for the public to provide interest and comments on the scope of the issues and analysis that the CSLC should consider in the EIR.

A secondary purpose is ensure that all oral comments presented today are recorded in a transcript. We have a court reporter here for that purpose. Comments can be provided in writing through August 15th, 2016. The facilities under lease to the CSLC represent a portion of the overall SONGS site that is subject to decommissioning. Although the applicants are requesting CSLC approval related to the lease facility, as part of its CEQA review, the CSLC will be responsible for evaluating the potential

environmental impacts for the entire project, which includes both the onshore and offshore components.

There are sign-in sheets available in the back so we can have a complete record of the meeting, and so you can be added to our mailing list to receive notices regarding the EIR. We also have speaker slips on the back table for those who would like to speak on the scope and content of the proposed documents. The slips can also be used to provide brief written comments on the back form. You can also e-mail, fax and mail your comments to the address in the Notice of Preparation, or NOP. Additional copies of the NOP will go -- excuse me, are also available in the back. As stated earlier, the 30-day comment period will end on August 15th, 2016.

At this time, the applicant, Southern California Edison, will present a brief overview of the project, then the EIR consultant for the CSLC will go over the EIR process. When those presentations are complete, we will open the public comments session.

MR. TOM PALMISANO: Okay. Thank you very much. My name is Tom Palmisano, I'm the Vice President and -- Chief Nuclear Officer and Vice President of the Decommission for Southern California Edison, and responsible for the SONGS Decommissioning Project on behalf of Edison and co-owners that have been previously mentioned. So I appreciate the

opportunity to speak tonight. I'm going to provide a brief project overview, because the meeting, as I understand, is really about public comment on the proposed project, so I will keep the remarks brief, but try to give you an overview of the project. So with that, can we go to the next slide, please.

So first of all, the project location. So tonight I'm going to talk about a four-phase project that takes us all the way up to 2052, but I'm going to really focus on Phase 1 and part of Phase 2, which are the immediate activities in front of us that are proposed tonight for the proposed project. First, the location -- sorry to turn around and face the screen periodically -- many of you know where the plant is, it's located midway between Los Angeles and San Diego, north in San Diego County.

The onshore facility located itself is located on land owned by the Department of the Navy on the Marine Corps Base Camp Pendleton, and that's important because it brings in the Navy decision making and federal jurisdiction, so a good bit of the part of decommissioning that applies ahead. The offshore facilities are on tidal and submerged lands managed by the California State Lands Commission, and that's one of the remediate topics we are talking about, the dispositioning, the offshore facilities known as conduits. The conduits are used to bring cool water into the power

plant when it used to operate or it discharged out of the power plant. Can we have the next slide, please.

So this gives you a good overview. What I've shown here on the strip of land, you see what's labeled as "Onshore Site" outlined in yellow -- and these slides will be publicly available, so if you can't see it, they will be certainly on our SONGScommunity.com website -- that shows you the onshore pieces of property that is under a real estate document with the Department of the Navy. You, then, see in orange what we show as Unit 2 and 3 conduits. So very quickly, under the yellow column, the onshore pieces are Units 2 and 3 physically, it's the ISFSI, that's the independent spent fuel storage installation -- and that's the last time I will say it that way -- it's the dry cask storage facility where the spent nuclear fuel is stored after it's removed from the fuel pools. Parking lots, access roads, railroad spur, the seawall, the public walkway, and the riprap, that is all part of the onshore facility on the Department of Navy land.

Offshore, you see the Unit 2 and 3 conduits. Later on I will show you those discharge conduits are virtually 8400 feet, so you will see another slide that gives you dimensions. So that is the offshore portion of the decommission project. And the conduits in the offshore portion are subject to State land jurisdiction, and we have filed in November 2015 a lease amendment that dispositioned

the offshore facilities as part of the decommission project. Can we have the next slide, please.

So let me give you a little background. SONGS originally has three units. Unit 1 was built originally, Unit 2 and 3 were added later, and we operated three units for a period of time. Unit 1 was retired in 1992, and majority of that decommission work has been completed. It is not finished yet and will be completed later in time with part of Unit 2 and 3. Basically, what you would see above ground from Unit 1 has been removed, okay. The old Unit 1 location has been constructed to the dry field storage originally in 2000 after receiving a Coastal Commission permit for that facility, and that's where the Unit 1 fuel is stored.

And then the disposition of the offshore conduits in 2014, with a lease amendment, and ultimately to disposition for the conduits, was to abandon all of the horizontal conduits in place cutting off the vertical lines to the conduits that provided the most acceptable environmental impact, as opposed to turning thousands of feet of conduit out from the seabed. SONGS Unit 2 and 3 were permanently closed in June of 2013.

Now, the decommissioning is subject first and foremost to NRC rules. They regulate and have exclusive jurisdiction over nuclear and radiological decommissioning,

and then there is certainly a number of state rules that come into play with State Lands Commission and Coastal Commission. So we submitted in 2014 all the documents the NRC required in 2014, and in 2015 we received acceptance and approval. So today we will meet all NRC federal requirements for decommissioning. And as part of their work, we did an environmental assessment, and they have already done a federal NEPA, National Environmental Policy Act, review of decommissioning generically across the industry, and in our submittals, we confirmed we were bounded by that.

The ISFSI for units is the dry cask storage system. Units 2 and 3 were constructed in 2001 under a Coastal Commission development permit, and we got an approval in 2014 to expand. So roughly 2/3rds of the fuel on site is in dry cask storage -- I'm sorry, 1/3rd in dry cask storage, 2/3rds is in west storage in Units 2 and 3's fuel pool. That will be offloaded once we finish construction of the expand of the ISFSI, and that is underway.

Interim activities, so the variety of activities for Unit 2 and 3 that are needed prior to the beginning of decommissioning. So if you've been engaged in panel meetings, you heard me talk about cold and dark activities. This is basically removing all non-radiological hazards from the site, such as chemicals, and oils, and gases that we no longer need that we use operationally, this is de-energizing

all of the retired equipment, and putting in spent fuel pools or cooling systems that are sized for the low heat loading spent fuel today, compared to the operating phase.

So all of those interim activities were properly permitted since they are in the coastal zone by the Coastal Commission, and those activities are completing in the 3rd quarter of 2016. And I had noted we submitted the application for the lease amendment for the offshore conduits in Units 2 and 3 in November of 2015. And in that we proposed a disposition similarly what we did on Unit 1, I think environmentally that makes the most sense. Can I have the next slide, please.

So we got background. We are going to start talking about phases of decommissioning. The overall time frame, and we are talking, really, starting in 2018 after the permitting process is complete that we are entering now, so 2018 to 2051. So we are looking at the decommissioning in four phases. 2018 to 2025 is really Phase 1, that's when the bulk of the decommissioning is done, that everything that really is visible related to the two units, Units 2 and 3. Everything you see above ground is basically removed, radioactivity is remediated to NRC standards, and the NRC will ultimately have to approve that we've met their requirements, and we would go through a license amendment process to terminate the licenses related to Units 2 and 3.

That's for Phase 1.

Part of what we are talking about tonight is Phase 1 and the early part of Phase 2 where the conduits are dispositioned. So remember the offshore portion of the conduits subject to the State Lands Commission jurisdiction, that is part of Phase 2. The remaining part of Phase 2 is site restoration, this is after we meet the NRC requirements. This is to meet whatever Navy requirements will exist to completely remediate the site after we meet the radiation requirements the NRC has to terminate the license. To finish remediating the site for any other changes they want to the site, since they are the land owner, they ultimately have the say in terms of the condition we leave the site in. That portion will be subject to an easement or real estate document exchange with the Navy, and only a federal NEPA review will determine the end state of the site for Phase 2 once we are done with radiological remediation.

Phase 3, once the physical work is done initially, Phase 1 or Phase 2 is really a long-term period of just operating the dry cask storage system awaiting the Department of Energy to remove the fuel from the site to do an interim storage, or for a permanent repository. That is our legal responsibility.

So our job is to maintain it safely onsite in a dry field storage system until a facility is available that the

Department of Energy will provide. Right now we envision that's 2035 to 2049. During that period, we envision a facility being available for interim or permanent -- interim storage or permanent repository in charting the fuel out of the site, and by 2049 we would expect to remove the fuel from the site. Then 2049 to 2052 is dry cask storage system removal and final site restoration, again ultimately to Navy standards. NRC standards for the dry cask storage system, Navy standards to the rest of the site.

One of the things I want to reiterate, we talked a little about a pre-engagement panel meeting, our goal very clearly is to decommission the site in a safe manner, a timely manner, and a cost-effective manner while maintaining high standards of environmental protection. We take that very seriously, and we talk a lot about that internally, and we talked a lot about that with our stake holders. Particularly important tonight is high standards in the environmental protection making the right decisions through the process on how to do this with the appropriate consideration for the environmental impacts. The other thing is the decommissioning trust fund.

A lot of people don't understand the customers contributed to the decommissioning trust fund, and that fund is really publicly funded under the Public Utility Commission. At the end of the day, if there was unused money

in trust, it will be refunded to the customers. This is not an issue where Southern California Edison and the other owners gets to keep the funds, the money goes back to the customers. So we are very sensitive to the balance of safety finding in this cost-efficient manner while maintaining the right level of environmental protection. Can I have the next slide, please.

So I touched a little bit on, you know, the different jurisdictions at play here, but let me just recap. This is certainly not a comprehensive list, there are many agencies that will be involved in the decision making about decommissioning. On the federal side, it starts with the Nuclear Regulatory Commission, they set the requirements to decommission the nuclear plant when it's permanently closed, they're requirements are the complete decommissioning in 60 years.

We have a plan that will complete the bulk of decommissioning in 20 years, well within what the NRC requires. The NRC sets the standards for remediating the radioactivity and removing the plant, and ultimately proving that the site has been remediated such that it can be released for use by the land owner, that's NRC jurisdiction. So that the bulk of the initial onshore work is under NRC jurisdiction, they have a federal NEPA process to do the environmental reviews, which they have already done.

The next is the department of the Navy. Since they are the landowner -- they are somewhat unique. I can't think of many other commercial plants that is not on land owned by a facility. So we don't own the land, so ultimately, the end state for the land, the unuse for the land is determined by the Department of the Navy, not we, the operator of the facility. So we will at the right time start on the process of amending the real estate document, and that will start a federal process under the NEPA to define the end states of the Navy's satisfaction. So that process has yet to come, that's their jurisdiction.

On the federal side, you see a number of other agencies that will be involved in the decommissioning decisions. Now, on the state side, certainly tonight, State Lands Commission and also Coastal Commission. So the offshore facilities are clearly in the State Lands Commission jurisdiction, as we've talked about. The onshore facilities as well as offshore is in the coastal zone, so the Coastal Commission has a role to play.

So ultimately before we begin the decommissioning in Phase 1 and that piece of Phase 2, we need approvals from both State Lands Commission and Coastal Commission. Tonight there is no reason to start on that process to allow us to obtain those approvals. There are other state agencies that will be involved. For example, one I wrote there, the

Department of Toxic & Substance Control will help determine an end state remediation criteria for the State Commissions, and they will assist the Navy as well. So there is a variety of different organizations involved in different pieces of decommissioning. Next slide, please.

So I've talked at a high level about Phases 1, 2, 3 and 4. Tonight we are really focusing on our proposed project of Phase 1 and that portion of Phase 2 related to the offshore facilities. So if you take a look at the slides, so Phase 1 onshore were 2018 and 2025, again, reiterating the NRC has a responsibility to regulate the decontamination and radiological issues, and ultimately terminate or release the NRC license. The project is in the coastal zone, so it will trigger a Coastal Commission review. So the work in Phase 1 is under Navy juris -- under NRC responsibility for oversight, also under the Coastal Commission's responsibility for a Costal Development permit. And we've seen the offshore work, from 2020 to 2035.

The portion we are focused on tonight is the State Lands Commission lease requirement and dictating what happens to the conduits and riprap, okay, so that's really what we are here to talk about tonight. It located in the coastal zones as well so they also trigger a Coastal Commission review. And again, like I said, our concept in Phase 2 with the conduits is to do something similar to what we approved

for Phase 1 where the bulk of it is abandoned in place. I talk more about that in a minute. So can we have the next slide.

So Phase 1 onshore work is a little bit more detailed. It will involve decontaminating and dismantling the facilities, it includes, basically, large conform removal and disposal. So these are the physical pieces of equipment inside the contained buildings, the turbines, all the main, you know, the large components that you see. All of the above-grade structures are going to be reviewed, so as part of this, you basically remove everything you see above grade and you go to a certain level below grade to satisfy the NRC requirements. So the bulk of what you see out there is removed as far as Phase 1 and the end Phase 1. I will show you a picture in a minute. What is going to remain after Phase 1 is the dry fuel storage installation pending the removal of fuel and the switchyard, because the switchyard is an inner connection point for the electrical system, and noted decontamination pursuant to NRC regulation and oversight. Next slide, please.

So this is a simple little graphic, and all I've done here is kind of gray out the physical facility. You can see at the end of Phase 1, everything above grade is removed, meets NRC standards for decontamination of the waste of the facility. So this is the onshore piece of Phase 1, and I've

highlighted where the dry fuel storage system is today and will be, in the lower left, and you see the SCE, Southern California Edison, San Diego Gas & Electric switchyard, this is the major interconnection point between the two electrical systems, so it's proposed to stay as part of this. So that's really the onshore work for Phase 1. So let's go to the next slide.

So Phase 2 of the offshore work, again, the early part of that is part of this project scope, this involved disposition of Unit 2 and 3 conduits. So what we are proposing is basically removing the vertical risers on the intake conduits -- and I think we've got some pictures in the back here that on a break or at the end of the meeting our folks will be glad to show you -- removal of subset or vertical diffuser ports on the discharge conduits. Again, our thinking is removing a subset of these is an acceptable approach from an environmental standpoint, so you can review our approval, of course. Then, we put in place the horizontal conduits.

The vertical conduits themselves are buried below the seabed, they are covered in riprap and sand and sediment on top of that, so you look at thousands of feet of horizontal conduits below the seabed. Certainly as it was done with Unit 1 it makes sense to abandon that in place, its much less impact on the marine environment. Similar to

Unit 1, minimize sea floor disturbance, maintain the existing habitat, and minimize destruction of recreational activities, which is very important in the area, and very important to us. So we are looking to do this with the appropriate time sensitive to the environment, recreational uses, et cetera. So the next slide.

So the offshore conduit details, this will be a little harder to read from a distance. At the top -- I'm sorry, I'm wired here so I can't really point at the screen very easily. At the top of the conduits is really the Unit 2 conduits, and it shows both the intake and the discharge conduits. The intake conduit is shorter. If you look at my little legend at the bottom where it says approximately 3300 feet, that's the second purple vertical line from the right, that's where the intake conduit is, the pipe that takes water into the plant when it was operating.

The long section going out to 8400 feet is the discharge conduit for Unit 2, okay, so that runs roughly 8400 feet, again, below the seabed. Unit 3 conduits are a little shorter, intake is still 3300, the discharge is 6000. So that's practically what we are talking about with the offshore conduit facility. You can also see outlined there, not very clearly, the riprap along the shoreline, and it's really shared between the State Lands Commission lease as well as Navy jurisdiction, so the riprap, the walkway of the

seawall. Part of the riprap is a Navy jurisdiction, and part of the riprap is State Lands Commission jurisdiction, to give you a sense of that.

I think that hits the highlights in terms of the project scope and the overall view of the project. Again, it's an important project, we got a good plan in place, we are looking forward to the review. I definitely encourage our SONGS Community website for more information, we update that periodically, and as we work through the process, we certainly will update that. So with that, thank you very much.

MR. JON DAVIDSON: Good evening, my name is John Davidson. I am going to briefly describe the environmental review process under the California Environmental Quality Act, also known as CEQA, and I will tell you a little bit about the general content of the Environmental Impact Report that we will be preparing.

The reason we are here today is that the State Lands Commission received an application from the SONGS co-participants for the removal of the offshore conduits and some of the riprap, as it was just described. And so the State Lands Commission has determined that that action is discretionary and that it required to be under the California Environmental Equality Act. Because the staff determination has been that the actions associated with decommissioning

could result in significant environmental impacts, they made a determination that a preparation of EIR is needed, and that's the highest level of review under CEQA. So the screen shows an overview of the EIR process, and the process officially started on July 12th when the Notice of Preparation was distributed. This started a 30-day scoping period.

During the scoping period -- or looking for input on the scope of the analysis in the EIR, so that means things like what are impacts that may be significant that need to be addressed in the EIR process, what are some mitigation measures that could reduce or avoid those impacts, and potentially, what are some alternatives we should be looking at in the EIR process, I will talk about that in a moment. So that's basically determining the scope of our Environmental Impact Report.

So this meeting tonight is part of the scoping process. After scoping, preparation of the draft begins, which will take several months, the draft, again, will describe the decommissioning activities, and that description will be used to assess the impacts of decommissioning on the environment. And what the impact analysis focuses on is the change from current conditions that will be caused by the decommissioning activities. So we will identify impacts based on those changes and making the determinations of which

of those impacts are significant.

For each significant impact that is identified in the EIR, there will be measures proposed to reduce or avoid those impacts, or alternative developments that we can also reduce or avoid certain significant effects of the project. When the draft of the EIR is finished, it will be published and made available for public review. The publication of the draft of the EIR starts in a, generally, 45-day public review period. At the Commission's discretion, it could be extended to 60 days.

During that public review period, the public organizations and agencies are invited to submit comments on the content of the draft of the EIR. When the draft of the EIR review period is over, the final EIR will be prepared, and the final EIR will consist of all of those comments that were received during the draft EIR review period. Responses will be provided to each of those comments, and there will also be a description of necessary revisions to the content information which was presented in the draft of the EIR.

So when the final EIR is published, that completes the EIR process, but before the Commission can take any actions to approve Edison's application, it first has to certify the final EIR process, so basically that it adequately met the requirements of the California Environmental Quality Act. So once the EIR is certified,

then the Commission can move on with its action stated on the application.

As you can see on the screen, there are two opportunities for public input -- actually, three opportunities of public input in this process. The first is right now during scoping, the second will come when the draft of the EIR is prepared, and we are in that public review period, and it will be publically advertised, one in Oceanside and one in San Clemente, that we advertised, so the public can make comments like tonight. The third opportunity will be after the final EIR is published. And a hearing is scheduled at the Commission to act on certifications of the EIR and consider Edison's application, whether they are to approve that or deny that.

As I mentioned earlier, the EIR will identify impacts by comparing conditions in the environment today to conditions with decommissioning. So we are asking ourselves, what changes will occur when decommissioning activities start when you are looking at those changes in determining if any of those represent significant impacts on the environment, and we are focusing primarily on physical environment. As I mentioned before, for every significant impact to identify, we will be looking for measures or alternatives to help reduce or avoid those impacts.

Because CEQA requires the EIR to focus on impacts of

the physical environment, impacts such as social effects or economic effects are not considered significant under CEQA. And the EIR takes a look at a wide range of environmental issues, so I'm trying to identify what the significant impacts of any particular project are. So we anticipate with the decommissioning activities, that they would likely result in significant impacts associated with the environmental issues displayed on the screen. However, we are seeking input tonight about other potential issues or impacts related to those issues that you may have ideas on that we should be investigating to determine if any of those impacts are significant. We are also looking for input for ways to reduce or avoid those impacts to avoid those measures or alternatives.

Just to give you a couple examples, take the first item on the list, which is aesthetics, you may have input about certain views that you think are important, they could be adversely affected by decommissioning, so that's something we want to hear about, and we decide whether that's something that needs to be addressed in the EIR. Taking the second topic on the list is air qualities, you may have ideas about certain types of impacts of air quality that you think should be the subject of the analysis of the EIR, so any input like that would be appreciated. And that's the type of input we are looking for to scope the EIR, the purpose of the scoping

period we are in right now.

Part of the EIR is an examination of alternatives, so we are looking for suggestions for potential alternatives evaluated in the EIR. For an alternative to be suitable for being included in the EIR, it must meet most of the projects objectives, it must be feasible, and it must be capable of reducing or avoiding one or more of the significant impacts that have been identified in the EIR. For example, as it was mentioned in the Southern California Edison presentation, they are suggesting that there be a partial removal of the offshore conduits, that's their proposed project and alternatives. That would be to more fully remove the offshore conduits, and there may be variations on that, they could be considered as alternative. That's just an idea of an alternative that might be suitable for evaluation in the EIR.

I would like to point out that the analysis that we are doing in the EIR is an independent objective review of the project and its impacts. We are conducting an analysis on behalf of the State Lands Commission to aid them in their decision making process so that they have information about environmental facts when they are considering what action to take on the application. They also will consider other factors as well, but the fact that we are doing this independent review, it is important to understand, and it can

serve as part of the considerations in front of the Commission when they are rendering a decision. And with that I would like to pass the presentation back to Cynthia.

MS. CYNTHIA HERZOG: Thank you, Jon. The NOP and this staff hearing start the scoping process, as we've been discussing, to solicit comments regarding the scope and content of the EIR. The Commission is not taking any action on the project today, nor are we preparing the EIR in order to either support or oppose any actions or potential approvals by regulatory agencies.

We will now open up the comments on the scope and content of the draft of the EIR. The testimony we are interested in receiving, as we have mentioned, involves the project range of actions, project alternatives, mitigation measures, and significant impacts to be analyzed in depth in the environmental documents. Please try to limit your testimony to three minutes, and to these issues. The comments will be recorded, so please speak as clearly as possible.

MS. KELLY KEEN: So I'm going to call up the first three names here, and if you can line up right behind the podium, that would be great. Peter Stoup, Rick Wilson and Ray Lutz.

MR. PETER STOUP: My name is Peter Stoup, I'm a native San Diegan. I am here representing the Post Ignorance

Project, whose aim is to rid the world of the nightmare of nuclearism and all of its pernicious forms via nuclear power plant or advanced nuclear weapons. We are for human rights, peace, and the health and safety of future generations. This meeting is not about us. The ultimate decommissioning of San Onofre is projected for after 2045, when I'm in my 80s. This is about the survival of our species, our children and their children, and so on, not to mention all the wildlife and animals out there on the land, because of all of these radionuclides that are constantly created by this -- by this way of making power. These things just don't go away right away, many of them don't, many of them stay with us, and they will stay with all of our generations and probably to the end of humanity. There is no safe dose for a radionuclide, finding out radiation from these things and other things will cause mutations, they will cause birth defects, and they will cause cancers.

The nuclear industry is aware of this, the government is aware of this, and they have been for decades. They never had a real plan as to what to do with most of the toxic -- most of the toxic stuff known to man, yet they continue to produce more and more of it without regard for public safety, they only care about profit and costs, therefore, these bodies are complicit in the deaths and suffering of the untold thousands people and other species.

Comment Set 32

Many of us consider this premeditated murder. These people should be held to account.

The ongoing catastrophe in Japan since the earthquake and tsunami on March 11, 2011, only underscores are needed to deal with the problems of nuclearism head on and without hesitation here in Southern California. There is no fix to Fukushima, similarly, there is no fix to our problem here. This isn't about mitigation, much the damage is already done.

In January of 2012 an accident with the new generators at San Onofre caused a major leak of radioactive steam and water into the Southern California biosphere, which was covered up for months and led to the shut down of the very same plant. Again, no release of radionuclides is safe. Kevin Blanch, our founder of Post Ignorance, was made aware of the release -- by this release. At the time by an employee at SONGS was made to mop up radioactive water in the plant. Kevin reported it first, and he's been on this since day one. Southern California residents were never made aware of why it happened until just recently when it was disclosed that the operators ran the reactor too fast and too hot, according to a former Edison scientist, who did an independent study.

It was our belief, therefore, at the completion of decommissioning, the San Onofre site should be shielded off

32-1

to the public, and marked for all times a hazardous place. People should be given a fair warning of the risks involved without for even being there. With this, it is imperative that the nuclear waste there being removed off the site as quickly as possible probably is just about the best bad solution to the problem of nuclear waste. My friend, Kevin Blanch, wanted me also to say that we probably ought to put a big sign on the I-5 that says, "We radiated this gorgeous place for time and all of eternity, surf and enjoy it at your own risk." Thank you very much.

32-1 (cont.)

MR. RICK WILSON: My name is Rick Wilson for the Surfrider Foundation, and I have four points. My first is just nomenclature, I know you keep referring to the cooling water intake and return pipes to conduits, when I think of a conduit, I think of a small diameter or an electrical conduit, so I think it's just a little bit confusing to use that term, so I prefer you use cooling water pipes as the term to avoid that confusion.

32-2

Second, as far as baseline, it seems like the EIR, you are considering the baseline to be what's there now, I consider the baseline to be what was there before the nuclear power plant. It's really a unique coastline, it's pretty much between San Clemente and Oceanside, as close to the natural coastline as you have in Southern California, and right in the middle of it where SONGS is is this island of

32-3

concrete, and so I would like to see as much as possible, and Surfrider would like to see the site restored to the natural coastline as much as it can be. In fact, if you are familiar with the site, you will notice there's a big seawall in front of the site, there's no beach, which is why there's a seawall there, is why there's no beach. So we definitely advocate for the removal of the riprap and seawall as much as possible and as soon as possible to restore those natural conditions similar to what you have with San Onofre State Beach to the north and the south.

32-4

Which brings to me to my last point, which is one of the things preventing that from happening, of course, is the interim storage of the cement fuel rise at the old Unit 1 location. So I realize it's a frustrating situation, and almost everyone that I'm aware of, wants that waste out of there as soon as possible, but anything that anyone associated with the project can do to advocate for permitted consolidated storage, or a permanent storage to get it out of San Onofre, and no longer higher than 15 feet away from the ocean, where I've recreated for 45 years, I would appreciate it. Thank you.

32-5

MR. RAY LUTZ: My name is Ray Lutz, R-a-y L-u-t-z, I am with Citizens' Oversight, citizensoversight.org. I would like to speak to you today about the scope of your work. One of the big things that you are leaving out is the

installation of the ISFSI, that spent fuel storage installation, which is under the jurisdiction of the Coastal Commission, which you list as one of the agencies that's under your umbrella, but somehow there's been an artful dodge here. And this whole review of the ISFSI has been removed from your scope, and I want to know how it is that they are installing this several hundred million dollar nuclear waste facility with zero CEQA review, and you are ignoring it as if it doesn't exist. This scope needs to be changed.

You need to include the ISFSI, the installation within the scope. You need to review where is it being placed, is there alternatives, what are the impacts. No one has reviewed it. You haven't, and you are supposed to be responsible for it. So it's a good question, maybe somebody can answer when you have time. I don't know if you ever answer questions. But how did this get out of your scope? Why isn't it in there? Who did this? Who is the guy that paid millions of dollars to get this thing out of the scope magically?

So that we have spent fuel that can be there for potentially indefinitely, because there is no limit to when this thing can be in there. There's no absolute limit within 100 feet of the water, and a tsunami inundation area, and its seismic risk area near 8.4 million people, next to a super highway and a railroad. Is there any better place for it

32-6

than that? It seems like there should be -- and in fact, we did a review of places, and there are, but it's been ignored. Everybody is ignoring this big issue, the big issue of nuclear spent fuel being stored at this site potentially and indefinitely, and you guys aren't considering it.

Now, you say, well, we are exempt from that, we don't have any 3.1.1, that's under the federal. They don't determine where it's placed, they don't say one place is better than the other, they say any place is just as good to them. And you need to review where is it being placed, because you are forgetting that, you are forgetting. Your responsibility as the umbrella oversight organization is supposed to be reviewing what the Coastal Commission did, and at least reviewing it, because right now you are completely forgetting it, and it's a catastrophe. Please do that. Please include this huge part of the project in your scope, and review it as part of CEQA. Thank you.

MS. KELLY KEEN: Okay. So the next three people, Nina Babiarz, Charles Langley, and Ace Hoffman.

MS. NINA BABIARZ: Good evening, my name is Nina Babiarz. I am here on behalf of WTS, Women's Transportation Seminar, which is actually an international organization. And as Mr. Lutz pointed out what you are proposing in the scope, this is aside the interstate highway and the second busiest rail corridor in the United States.

32-6 (cont.)

32-7

I want to draw your attention to your own project description 2.0, and suggest that within the scope, everywhere where you have used the word "contaminated materials", that you should identify what they are contaminated with, because the first sentence it says, "Decommissioning involves removing the spent fuel," well, that's radioactive nuclear fuel. So everywhere where you use the word "contamination", it should say radioactive contamination.

32-8

Also, going back to your 3.2.6, "Hazardous/Radiological Materials", that first sentence says very clear to me that part of the scope should be addressing emergency planning and response. All you have to do is read that paragraph, I am not going to waste my time in doing it.

But I would like to focus on your section 2.3, "Ongoing Site Activities During Decommissioning," and specifically the area of emergency planning, "The SONGS emergency plan was revised," well, it certainly was. Because on June 5th, 2015, the NRC accepted Edison from all -- all off-site emergency planning and response, and as a result of that action, the NRC then sent FEMA a letter indicating that they were to remove from the response from FEMA, FEMA and DNC, the notified FEMA Region 9 in California, exempting them from their responsibility of emergency planning and response, that direction from FEMA Region 9 went to the California

32-9

Office of Emergency Services and on down to San Diego and Orange County Emergency Services and Planning, who is now responsible for everything.

And so with regard to your scope, under 2.4, "Permits and Permitting Agencies", when you are talking about coordinating, I noticed what's missing. On a State level, on a local level, you don't have San Diego and Orange County Emergency Planning in there. Under a State level, you don't have the Office of Emergency Services, you don't have the California PUC, which unfortunately is now the safety system oversight agency for the Federal Transit Administration.

On page 15 under "Federal", FEMA is missing. And so if you are talking about evacuation, emergency planning and response, you should really consider -- well, I'm here to request you include in the scope every single agency that should be coordinated and communicated with regards to the emergency planning and response, it's possibly going to be necessary when you look at your 3.2.6. Thank you.

MR. CHARLES LANGLEY: Hi, I'm Charles Langley. I'm the Executive Director of Public Watchdogs, publicwatchdogs.org, and I'm looking at "Federal Pre-Emption" 3.11 here, and I'm a little bit baffled, because if I am understanding it correctly, you can look at all of the environmental impacts on behalf of the Lands Commission and the people of California, but you can't look at radiation

32-9 (cont.)

32-10

hazards, so when the Aspen Institute goes out to do its hydrology study of water quality, it can't look at the quality of the water in terms of how much radiation has been done to it. You can look at the air quality, but you can't look at the quality of the radiation that's being potentially dumped in the air as a result of this project.

Now, the real problem here is that each of the 80 dry casks that's going to be partially buried on the beach at San Onofre contains more radiation than what was released than Chernobyl, so this is a significant environmental hazard. So it seems to me you can't really do anything about the radiation, but the Environmental Impact Report really should include an assessment of a worst case scenario if one of those casks breaks open.

I understand federal law pre-empts you from actually doing anything, actually planning anything, but if you look at the absurdity of the situation, if Chernobyl had happened in Los Angeles, and you were to do an Environmental Impact Report on Chernobyl, you would have people from the Surfrider Foundation coming up and saying you, my, you got to remove this structure and get rid of this, but you couldn't talk about the amount of radiation in the water, in the air, or the cancer risk to the 8.5 million people who live in a 50-mile radius of this power plant. So I would like you to reconsider the Environmental Impact Report.

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32-10 (cont.)

32-11

32-12

And one of the other things you should consider is what's going to happen to the water in the spent fuel pools, because they are going to dumped into the ocean, and it's my understanding of their policy of dumping it into the ocean isn't to make it public, they will let us know afterwards, and I think the public should know, surfers, swimmers, people that live nearby should know when Edison is diluting and discharging nuclear waste into the water off the shores of your beach, our beach, and the beach that the Lands Commission is responsible for. Thank you.

32-13

MR. ACE HOFFMAN: Hi, name is Ace Hoffman. First off, I would like to complain about the use of Aspen Environmental Group, that you do not do an independent objective review with them. And this is obvious if you look at what they did for the installation of steam generators that failed after a few months after they were installed. They didn't consider at all the possibility that something like that would happen, and all their calculations of whether it was worth it were based on the things working for 20 to 40 years, and that didn't happen.

They also didn't consider the possibility of what happened if the radiation releases, because they didn't have to consider that, because that's NRC, but it's not that simple. In your document now, it assumes here on page 12, "assumes a permanent repository or interim storage location

is available". There's no basis for that assumption whatsoever. At the bottom of the page it says, "for a permit amendment to authorize the retention, removal, or relocation of the ISFSI." I will get to that a little more in a moment.

The next page, page 13, we have the word "assumption", "The Co-Participants are proceeding under an assumption that all spent fuel will be shipped offsite by 2049," no reason for you to believe that's what's going to happen. Later on in the same page, "The ISFSI would remain onsite throughout decommission until the field is moved." And then again, the security response, same problem that you are making assumptions that have no basis.

32-14

If there's a child in a hot car, you are allowed to break in and do something, the NRC is not handling this thing properly. And I have your report I'm going to submit from the office of whatever, it indicates that the NRC has done a very poor job determining whether or not fuel fire can release a lot of radionuclides.

Now, there is a solution that is not considered, which is neutralization of the plutonium and uranium, specifically the U235 and PU239 using a laser reduction. Those two isotopes cause the problem to be the one that will last a quarter or a million years, 250,000 years, and that's a major concern. If you can get rid of those, and you can, the fission products only have half lives of, say, 30 years,

32-15

or less, most of them, which means that they would be almost completely gone 500 years from now greatly reducing the damages.

So my recommendation is that this neutralization be done, and that the waste be removed to Palo Verde. Now, my sister lives in Tucson, which is not terribly far, and I'm sorry to have to suggest that it go there, but ISFSI is a part owner, one reason they said they don't want to send it there is because they wouldn't have responsibility for taking care of the making sure that the waste is safe. But they are a part owner of a nuclear reactor, which is far more dangerous, so obviously they trust the Palo Verde operations to do things safely. So let's get that waste moved there, where we don't have earthquakes, and tsunamis, and an enormous population. Thank you. **32-16**

MS. KELLY KEEN: So I have two more speaker cards here. If there's anyone else who like to speak, if you could fill out one of these cards. Thank you. Greg Alexander and Daniel Beeman.

MR. GREG ALEXANDER: My name is Greg Alexander, I'm a native Oceanside resident born in TriCity in '72. And I don't really have a script or anything, but my father worked for San Onofre in the 80s, he lived to be 80, passed away in 2010 from pancreatic cancer, which may be as a result of working in Reactor 1. I miss him a lot. My mom had double

breast cancer in the 90s, and 20 years later actually -- 20 years later she got another bout, she's still living and she lives in Carlsbad. And my sister has a mild cancer issue. I feel like I'm the lucky one here out of my family of four to not have cancer at this point.

But anyway, it's just sort of alarming because 103 reactors that are in the U.S. that are all big nuclear reactors, some of them are -- or I apologize I forgot the information, I'm kind of babbling here. But I can't quote Einstein, but he said something about give it 50 years and we will ruin the planet, and it's been about 50 years since [indiscernible]. So basically now, we have post-Fukushima, and that's all I can think of, because after that horrific accident that happened on the Ring of Fire, and to think of 40 other reactors that are offline and also in peril, and the fact that all of these reactors are basically creating winter dust, every time I look on YouTube, I am horrified another tenfold by what I found regarding radioactive isotopes.

Over 2,000 we don't know anything about, and 1,000 or so that we may know little about. So again, this is completely off the cuff. I'm an artist and pro-athlete, animal lover, lover of all animals, what can I say, I just think that so much has been done to ruin this planet, and at this point it's basically game over as far as we have all of these reactors. And as soon as they start to break down to

trigger, they continue to release further. We have, you know, Diablo Canyon, I mean so many I can't even name, on 62 sides, and they are all just breaking down and leaching into the water table, and that's a dirty subject that no one wants to talk about.

So we all have to agree with ourselves. You know, you might want to move somewhere where there's not plants, well, the world is big circulating with geological sands, and that. So anyway, I don't know what to think except that I want to keep it positive, try to keep it logical and the emotions separate, but when it comes to my family, it hurts, and I try not to get, you know, mad, but it's just there needs to be something done that that spent fuel isn't on that cliff and fault lines next to the highways and railways. And it's already released an immense an amount of radiation, and I am absolutely furious from what I've heard. And I want to go far away from this 33rd parallel, but there's nowhere safe, that's all. Thank you.

32-17

MR. DANIEL BEEMAN: Hello, my name is Daniel Beeman, I'm a constitute and ratepayer, a long time ratepayer, almost 30 years. I'm from the San Diego, so SDG&E territory. There's three monopolies in California, three or four monopolies here in the golden state of California, and it's pretty easy to make money when you are monopoly, so I think they have to pay for their mistakes. We don't make mistakes,

they make mistakes, but they continue to charge us. Some of the recommendations I have is a full removal of above-grade buildings. I think that structures should be cut up, I think that one of the structures should be moved to the state capital and put in the state capital park, all children be able to visit it and see what happens after we clean it as much as we can, see what happens when we let the public and the people we elect, that say that they are representing us, what do they do for us, because this is a big problem. **32-18**

I've ran for council, I've ran for elected office a couple times, and I take that responsibility highly, but when we play games like this, it isn't right. I think that when they take the rest of it, some of it, definitely the nuclear stuff, that can go to the ex-governors' houses, in their backyards, not ours. We already had it long enough, we don't deserve it any longer. So let's move it in your backyards. We should include Ms. Brown, who was on that senate to boulder it, who did the Aliso Canyon situation, we can give her a little bit of that, too. She can have a nice night party all the time.

I think this is what we need to do, we need to make a more partial removal of the walkways and the riprap. Part of it is for us to remember to remove the rest of it out so that we can be safe and not to be in danger, but we need to remember the guide for removal, the access votes for removal, **32-19**

because if people want to live there, they need to walk there, and not try to build a new community there, because these new condo developers would say, oh, it's okay, everything's okay. Spent fuel, like I said, fully removed should go to the governors and also the representatives who voted for it, and the senators who voted for it. We need to make them accountable finally for once.

You know, you get all the money, we pay all the bills, and we get the headaches, and I think it's wrong. We don't know what's going to happen to the nature. We've seen what's happened to the nature in Russia, and things like that, and they come back a little bit, but we got to plan on the rest of this. This isn't about businesses, it isn't about businesses, it's about families, and these are the people who pay you, and these are the people who should be dictating what you do, because we are the people, we the people of the United States, we the people of California, Oceanside, San Diego. Now, when you want to listen, I don't know, that's your choice, but God knows and he listens, and he will deal with it some day. Thank you very much.

MS. CYNTHIA HERZOG: We have no more speakers. The next public meeting on this project will be held during the release of the public draft of the EIR. We anticipate that meeting or meetings will occur in the 2nd or 3rd quarter of 2017. It's anticipated that the Commission will consider the

final EIR and the applicant's application in the 3rd or 4th quarter of 2017. As we've mentioned, many times comments on the NOP are due on August 15th, 2016. The contact information listed on this slide is also listed in the NOP.

As previously mentioned, also, CSLC staff would like to receive comments regarding the scope and content of the EIR, including the range of actions, the alternatives, mitigation measures, and the significant impacts that should be considered. At this time I will close the first of two sessions of the scoping meeting.

MR. RAY LUTZ: Excuse me, before you close, can you please answer my question I asked in my comments, how did the Coastal Commission get away with pulling that portion out?

MR. CY OGGINS: We can answer questions, we will be documenting that in the Environmental Impact Report.

MR. RAY LUTZ: Can you answer the question, please?

MR. CY OGGINS: I can't.

MR. RAY LUTZ: Well, try to answer it now.

MR. CY OGGINS: I'm sorry, the purpose of this meeting is to take comments on mitigation measures, alternatives, range of actions for the Environmental Impact Report.

MR. RAY LUTZ: Who determined that? I want to know. Who determined it? Who set it up this way?

MR. CY OGGINS: Excuse me, sir.

MS. CYNTHIA HERZOG: The second session will be tomorrow at 1:00 p.m. at San Clemente High School in San Clemente. You do not need to sign up or speak at both sessions, you may have your comments recorded. We thank you for coming.

MR. CY OGGINS: At this time the meeting is closed. Thank you.

(The proceedings concluded at 7:05 p.m.)

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CERTIFICATE

OF

CERTIFIED SHORTHAND REPORTER

I, the undersigned, a Certified Shorthand Reporter and/or Notary Public of the State of California, do hereby certify:

That the foregoing deposition was taken before me at the time and place herein set forth, and that the witness, prior to testifying, was placed under oath by me.

That the testimony of the witness and all objections made at the time of the examination were recorded stenographically by me and were thereafter transcribed, said transcript being a true record of the proceedings.

I further certify I am neither financially interested in the action nor a relative or employee of any attorney or party to this action.

In WITNESS WHEREOF, I have subscribed my name and Certificate Number on this date: 8/5/2016

<%signature%>

Certificate Number: 13854

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SPEAKER SLIP
Scoping Meeting for Environmental Impact Report
SONGS ~~Decommissioning~~ Project
July 26 and 27, 2016

CALIFORNIA STATE LANDS COMMISSION

Name: daniel-beeman@yahoo.com
(Please provide phonetic pronunciation if you think it is necessary as your name will be read for the record.)

Affiliation: Constituent + Rate payer FreedomPleaseDog@yahoo.com

Mailing Address: 3397 Caminito Aguilar D
Street or PO Box | Suite No.
San Diego CA 92111
City | State | Zip

Phone No.: Optional (858) 571-6059
Area Code

Do you wish to be placed on the mailing list for this project? (YES) **NO** paper pls (Save trees)

If you do not wish to speak, you may provide written comments on the back of this sheet.

COMMENTS: BIG Businesses, especially Monopolies should not have power over constituent / Rate payers!! We need fair representation. Put nuclear fuel in executives, CA Reps + Senators Backyards not OURS: SoCal residents, Ocean Fish + sealife and beach goers. We paid for it! Therefore we deserve better and don't even You! ??! Please do the right thing. Hold utilities responsible for their messes. Not the energy users they conned. Thank you for your time. 32-20

Sincerely,
Daniel M. Beeman
RatePayer + Constituent

SPEAKER SLIP

Scoping Meeting for Environmental Impact Report
SONGS Decommissioning Project
July 26 and 27, 2016

CALIFORNIA STATE LANDS COMMISSION

Name: Abel Alcaraz

(Please provide phonetic pronunciation if you think it is necessary as your name will be read for the record.)

Affiliation:

Mailing Address: 44614 Rodin Ave.
Street or PO Box — Suite No.

Lancaster — CA — 93535
City — State — Zip

Phone No.: Optional (661) 718-5352
Area Code

Do you wish to be placed on the mailing list for this project? (YES) NO

If you do not wish to speak, you may provide written comments on the back of this sheet.

COMMENTS: I would like information about Employment opportunities for the SONGS Project. "Where to go, who to Speak with etc"

32-21

PUBLIC SCOPING MEETING

for

ENVIRONMENTAL IMPACT REPORT

SONGS DECOMMISSIONING PROJECT

Presented By

CALIFORNIA STATE LANDS COMMISSION

Transcript of Proceedings

San Clemente, California

Wednesday, July 27, 2016

Reported by: Michelle M. Cadwell

CSR No. 11261

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PUBLIC SCOPING MEETING

for

ENVIRONMENTAL IMPACT REPORT

SONGS DECOMMISSIONING PROJECT

Presented By

CALIFORNIA STATE LANDS COMMISSION

Transcript of proceedings taken at 700 Avenida Pico, Little Theater, San Clemente, California, beginning at 1:00 p.m., Wednesday, July 27, 2016, before Michelle M. Cadwell, Certified Shorthand Reporter No. 11261.

PANEL MEMBERS PRESENT:

CYNTHIA HERZOG
Senior Environmental Scientist
California State Lands Commission
CY OGGINS
Chief of the Division
California State Lands Commission
KELLY KEEN
Deputy Project Manager
California State Lands Commission
JON DAVIDSON
Aspen Environmental Group

Also Present:
TOM PALMISANO
Vice President of Decommissioning and
Chief Nuclear Officer
Southern California Edison

Public Comment Speakers:
DONNA GILMORE, SanOnofreSafety.org
MARNI MAGDA, Sierra Club
GEOFF HARRIS, San Clemente Resident
CYBIL STREETT, San Clemente Resident

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San Clemente, California

Wednesday, July 27, 2016, 1:00 p.m. - 1:35 p.m.

MS. CYNTHIA HERZOG: Welcome and thank you for coming. We appreciate your interest in the review of this project.

At this time we will start the public scoping meeting for the San Onofre Nuclear Generating Station Decommissioning Project. It is July 27th at 1:00 p.m.

My name is Cynthia Herzog. I'm a senior environmental scientist with the California State Lands Commission in the Division of Environmental Planning and Management. I'll be overseeing the preparation of the environmental document in compliance with the California Environmental Quality Act, or CEQA. With me today from the Commission are Cy Oggins, chief of the division, and Kelly Keen, the deputy project manager.

Also with us today is our consultant team for the preparation of the environmental document, Aspen Environmental Group, headed by Jon Davidson.

Just as a reminder, if you have filled out a speaker slip, please make sure you've turned it back in to our team. There should be a team member at the back.

The agenda for this meeting will be as

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shown, starting with this brief introduction:

An opportunity for the applicant to address the public and describe the proposed project;

A review of the environmental impact report, or EIR, process by Aspen Environmental;

The public comment period with individuals who have filled out a speaker slip will have the opportunity to provide their comments on the project;

Followed by the close of the meeting.

The Commission will act as the CEQA lead agency, and staff will be reviewing the whole of the project in the EIR. The existing intake and discharge pipelines and a portion of the riprap along the shoreline within the project area are located on sovereign lands owned by the State of California. The Commission has jurisdiction and management authority over these areas. The existing onshore facilities are subject to an easement with the U.S. Department of the Navy, which expires in 2024.

The project applicant is Southern California Edison, or SCE, on behalf of the co-participants to the SONGS Decommissioning Agreement, which includes the SCE, the San Diego Gas & Electric Company, the City of Anaheim, and the City of Riverside.

The purpose of this meeting is for the

public to provide input and comment on the scope of the issues and analysis that the Commission should consider in the EIR. A secondary purpose is to ensure that all oral comments presented today are reported in the transcript. We have a court reporter here for that purpose. Comments can also be provided in writing through August 15th, 2016.

The facilities are under lease to the Commission and represent a portion of the overall SONGS site that is subject to decommissioning. Although the applicants are requesting Commission approval related to the lease facilities as part of the CEQA review, the Commission will be responsible for evaluating the potential environmental impacts of the entire project, which includes both the onshore and offshore components.

This is a second of two sessions. If you have already spoken or submitted comment on the first section -- or session, excuse me, you do not need to speak again.

There are sign-in sheets available at the back so we can have a complete record of the meeting and so you can be added to our mailing list to receive notices concerning the EIR.

We also have speaker slips on the back table for those who would like to speak on the scope and

content of the proposed document. The slips can also be used to provide brief written comments on the back of the form.

You can also e-mail, fax, or mail your comments to the address in the Notice of Preparation, or NOP. Additional copies of the NOP are also available at the back. As I previously stated, this is a 30-day comment period that will end on August 15th, 2016.

At this time the applicant, Southern California Edison, will present a brief overview of the project. Then the EIR consultant for the Commission will go over the EIR process. When those presentations are complete, we will open the public comments session.

MR. TOM PALMISANO: Okay. Thank you very much and thank you for the opportunity to provide a brief overview of our proposed project. We appreciate that.

I am Tom Palmisano, the vice president of decommissioning and Chief Nuclear Officer for Southern California Edison, and I'm here today on behalf of not only Southern California Edison, but San Diego Gas & Electric in the cities of Anaheim, Riverside, all of whom are owners of the facility and have decommissioning responsibility.

We are the operating and decommissioning agent for all four parts.

Next slide, please.

I'm going to give you a brief overview. It's been a great introduction to kind of give us a high-level picture of the project. So let me just hit a couple highlights.

So San Onofre many of you know is located midway in between San Diego and Los Angeles. It has facilities both onshore and offshore. The offshore facility's titled submerged land as has been pointed out and are managed by the California State Lands Commission. The onshore facilities are on the Department of Navy Marine Corps Base, Pendleton, and that's a unique situation where I think the only commissioned nuclear plant on land not owned by the utility. This is owned by the Department of Navy. And that comes to play in final decisions as to site restoration.

Next slide, please.

This slide, you saw a version of this earlier. I just want to mention a couple things here. We shored -- showed the offshore portion under State Lands Commission jurisdiction, the Unit 2 and 3 conduits. These are the big intake and discharge pipes that used to provide cooling water to the plant. Importantly, part of the riprap on the shoreline is

under State Lands Commission jurisdiction. The onshore portion is really under the Department of Navy easement and their authority. That's where Units 2 and 3 are. The ISFSI, which is independent spent fuel storage, and that means the dry cask storage system, is on the onshore portion.

You'll see the other things, and again, the riprap. Part of the riprap is also on the Department of Navy land as well as the seawall and public walkway. So decisions about seawall and public walkway are going to fall into the Department of Navy jurisdiction ultimately as part of the end of decommissioning. And the entire facility is in coastal zone, so there's also California Coastal Commission responsibility for permitting for decommissioning.

I'm going to be very brief on the background here. The operating treatment that's on the site --

(Reporter interruption.)

MR. TOM PALMISANO: So Unit 1 was closed in 1992, partially decommissioned and dismantled between 2000 and 2008. I think a key point here is the offshore conduits for Unit 1, which were subject to the State Lands Commission lease, were dispositioned in 2014. And the disposition, after a thorough environmental review, was to abandon the horizontal runs in place and cut off the

vertical risers. That is what ultimately we will be proposing for the Unit 2 and 3 conduits.

Moving on to Unit 2 and 3, we're early in the process. The NRC has jurisdiction over the radiological decommissioning and the release of the site from an NRC and radiological perspective. We have submitted all the documents, including a thorough environmental assessment, demonstrating compliance with the NRC's NEPA Environmental Impact Statement for decommissioning. That was done in 2014. And we meet all NRC requirements today to begin decommissioning.

The dry fuel storage system originally constructed in 2001. The expansion was approved in 2015 following a detailed and thorough CEQA review by the California Coastal Commission, which included evaluation of alternative locations for the dry fuel storage system. So that has been permitted, and that expansion is underway.

The State Lands Commission Unit 2 and 3 conduit lease application, which triggers this process, was submitted in November 2015, and our proposed project description discusses that.

Next slide, please.

Moving on, I just want to touch on this briefly. Decommissioning is a long process. The NRC

allows 60 years. We're going to do the basic decommissioning in 20 years. It will be broken into four phases. Today, we're focused on Phase 1 and part of Phase 2. Phase 3 and 4 are longer-term. I'm going to speak in a little more detail in a minute.

I should note that Phase -- Phase 3 will begin dispense -- independent spent fuel storage, or dry cask system, to the Coastal Commission on the issue of the permit asked us to come back in 2035 to revisit that permit, and we will do that. The goal is to complete decommissioning in a safe, timely, cost-effective manner.

This is customer money that we are spending on decommissioning. Whatever is not spent at the end of the day, it's refunded to the customers. So we're very sensitive to the balance of safety and timeliness and cost-effectiveness.

Next slide, please.

Multiple jurisdictions here are federal and state level, and certainly being on land owned by the Department of Navy makes it even a little more complicated. Fundamentally, the Nuclear Regulatory Commission has jurisdiction over the radiological decommissioning and the NRC license termination. Department of Navy then has authority over the land and

the end state after we meet NRC requirements.

In terms of what other changes we need to make to the site and ultimately how we leave the site is fundamentally up to the Department of Navy, will be subject to future federal NEPA, National Environmental Policy Act, reviews. That is yet to come.

On the state side, many agencies involved. Two key agencies: State Lands Commission and Coastal Commission. Jurisdiction over the offshore facilities -- and we're in a coastal zone, so jurisdiction over the coastal zone.

Next slide, please.

Just Phase 1 work. The NRC regulates it. It's located in the coastal zone. Phase 2, really California State Lands Commission lease requirements would dictate disposition of the offshore conduits and the portion of the riprap in the -- subject to State Lands Commission. And again, our proposal is to abandon the horizontal runs in place, similar to what was done for Unit 1 following a thorough environmental review.

Next slide.

A little more detail on Phase 1. Fundamentally, everybody you -- everything you see aboveground is related to the power plant itself will be removed as part of Phase 1 under the NRC jurisdiction

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for the radiological decommissioning and dismantlement of the plant and partial removal below-grade due to NRC requirements. That's fundamentally what's in Phase 1. And again, decontamination pursuant to NRC rules.

Next slide.

Phase -- at the end of Phase 1 -- again, this is my simple graphic, not done by an artist, obviously. What you see above-grade is removed with the exception of the switchyard, which will remain because it's a major electrical point between San Diego Gas & Electric system and the Southern California Edison system and the dry fuel storage installation. Again, waiting for federal action to remove fuel from the site. We project fuel to be removed by 2049.

And I'm encouraged by the fact there's some great promising developments for consolidating storage in a couple states which will support our schedule to move fuel off-site. So we're encouraged by what we see going on there. And then the seawall, the walkway, and the riprap would remain at the end of Phase 1.

Next slide, please.

Phase 2. Really, the part of Phase 2 we're talking about today is disposition of the conduits and the riprap that's under the State Lands Commission.

We're proposing to remove all the vertical

risers on the intakes, a subset of vertical risers or diffuser ports on the discharge, and abandoning the horizontal portion in place.

There are 3,000 to 8,000 feet of 18-foot-diameter pipe buried four foot below the seabed with riprap and sediment over the top of that. And as was found in Unit 1, the environmentally preferable alternative is to abandon the horizontal stuff under the seabed in place as opposed to the disruption to the marine environment, the recreation, et cetera, to actually pull that out of the seabed. So that is subject to approval.

Similar approach, as I said, is what we proposed and was ultimately approved on Unit 1 after a thorough review.

Next slide, please.

This graph I won't narrate. It just shows the Unit 2 and 3 conduits, and it shows the distances we're talking about for these large plates.

Next slide.

Really, I just want to keep this brief and close it with -- from our perspective, we have the SONGScommunity.com website with more additional information about decommissioning and related topics, and we will continue to update this with information as

we go through the simple process.

So with that, thank you.

MR. JON DAVIDSON: Good afternoon. My name is Jon Davidson with Aspen Environmental Group, and I'm going to briefly describe the environmental review process under the California Environmental Quality Act, also known as CEQA, and also discuss the primary topics that will be addressed in the EIR.

We're here today because the California State Lands Commission staff has made a determination that certain activities associated with decommissioning require discretionary approval from the Commission and are likely to result in significant impacts on the environment; therefore, an EIR is being prepared, which is the highest level of environmental review under CEQA.

What you see on the slide is an overview of the EIR process. The process was initiated on July 12th with the publication of the Notice of Preparation. This started a 30-day scoping period for the EIR.

During the scoping period, the State Lands Commission is requesting input on the scope of topics that should be addressed in the EIR. This means input on environmental impacts that may be significant, potential ways to reduce or avoid those impacts, and possible alternatives to be evaluated in the EIR. This

meeting today is part of the scoping process.

After scoping, preparation of the draft EIR begins. This will take several months. The draft EIR will describe the SONGS decommissioning activities, and that description will be used to assess the impacts of decommissioning on the environment. The impact analysis focuses on changes in the existing environment compared to conditions that will result from implementation of the decommissioning activities. Each significant impact associated with decommissioning will be described in the EIR, and measures or alternatives will be proposed to reduce those impacts.

When the draft EIR is finished, it will be published and made available for public review. Publication of the draft EIR starts a 45-day, or at the Commission's discretion, a 60-day public review period, during which the public, agencies, and organizations will be able to submit comments on the content of the draft EIR.

When the draft EIR public review period is over, the final EIR will be prepared. The final EIR will contain all the comments received on the draft EIR along with responses to those comments. The final EIR will also include any necessary revisions to the information presented in the draft EIR.

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Publication on the final EIR completes the EIR process, but before the State Lands Commission can make any decision to approve the proposed project, it must certify first that the final EIR adequately fulfills the requirements of CEQA. If the final EIR is certified, the Commission will act on the application submitted by the SONGS co-participants.

As you can see on the screen, there are two opportunities for the public to provide input on the EIR process. The first is during the scoping period, which we're in right now. The second will be when the draft EIR is published.

When the draft EIR is published, there will be public meetings held in Oceanside and San Clemente, similar to the meetings that we're having here today and we had yesterday. In addition, the public can attend the Commission hearing on the application, and also at that hearing, certification of the final EIR will occur.

As I mentioned earlier, the EIR will identify impacts by comparing changes caused by decommissioning activities to current environment conditions. Those changes will be evaluated for their potential to result in significant impacts on the environment.

For each impact that the EIR determines is

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significant, feasible mitigation measures or alternatives are presented to reduce or avoid those impacts.

I'd like you to note that CEQA requires that the analysis focus on impacts to the physical environment, and it does not allow social and economic effects to be considered significant.

The EIR typically looks at a wide range of environmental issues when identifying significant impacts. We currently anticipate the decommissioning activities will likely result in significant impacts associated with the environmental issues displayed on the screen. However, we are seeking any input you may have on additional issue areas or significant impacts associated with these issues that may occur.

For example, if you look at the first issue on that list, it's aesthetics. If you had concerns about changes in public viewpoints from decommissioning activities, we want to hear that so we can evaluate that in the EIR.

Looking at the next item on the list, air quality. You may have concerns about certain types of effects on air quality you would like to have analyzed in the EIR. That's the type of input that we're looking for to help us prepare the EIR.

In addition, we're seeking suggestions for possible alternatives to be evaluated in the EIR. For any EIR -- for an alternative to be inclusion in the EIR, it must accomplish three things:

It must meet most of the project objectives. It must be feasible. And it must be capable of reducing or avoiding one or more of the significant impacts that have been identified in the EIR.

An example of an alternative to the proposed project is the full removal of the offshore intake and discharge conduits that were used to provide cooling water to SONGS. The applicant proposes only partial removal of those, as it was just described.

That concludes my presentation. I just want to turn it back to Cynthia.

MS. CYNTHIA HERZOG: Thank you, Jon.

The NOP and this staff hearing start the scoping process to solicit comments regarding the scope and content of the EIR. The Commission is not taking any action on the project today, nor are we preparing this EIR in order to either support or oppose any actions or potential approvals by other regulatory agencies.

We will now open up for comments on the scope and content of the draft EIR. The testimony we

Comment Set 33

are interested in receiving involves the project's range of actions, project alternatives, mitigation measures, and significant impacts to be analyzed in depth in the environmental document.

Do we have any speakers at this time?

If you could please try to limit your testimony to three minutes and to these issues. The comments will be recorded, so please speak as clearly as possible.

MR. CY OGGINS: Okay. These speaker cards right now will be Donna Gilmore followed by Marni Magda followed by Geoff Harris. And there are seats in front if you wish to come down. So, Donna.

MS. DONNA GILMORE: Thank you for having this in San Clemente. I appreciate the effort.

The -- I've read through the document. I think it's important that you're basing your valuation on factual information, so I want to contribute some facts.

The seawall is listed as being protective. In the Coastal Commission document, Edison said that they don't count it for production because they haven't been maintaining it and repairing it. **33-1**

And then regarding the ISFSI, the dry storage system. The type of system that Edison is **33-2**

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using, thin stainless-steel canisters, are subject to cracking, particularly from the coastal environment. Colbert Nuclear Plant had a similar container, according to the NRC, that actually leaked in 17 years.

Now, if the pool is destroyed as is planned once it's empty, that's the only way you could replace that canister. And even canisters with partial cracks cannot be transported. So we're looking at that stuff sitting there indefinitely.

Then regarding the Coastal Commission permit, there were a number of conditions on that permit, such as figure out a way to inspect the canisters so we know they're cracking, figure out a way to repair them so we can fix them, figure out a way so we can deal with transporting them.

And I have -- I'll provide written comments and answer any questions, but I have NRC and other government and scientific documents to back this up.

In terms of the assumptions of the dates, the target dates that things are going to be loaded or removed to some other site, there has been after many tries, including from Edison, to move spent fuel somewhere else. They have all failed. So I don't think it would be a conservative assumption to assume anybody's going to want to take this stuff, especially

33-2 (cont.)

33-3

when they find out the problems.

Also, Edison uses, I want to point out to you is what's called hibernate fuel, which is over twice as radioactive, and it is known to degrade the zirconium caladium that's considered a defense in depth for the fuel. And it's been shown it can become brittle so that it could shatter in regular transport, you know.

So let's see. I had a question regarding -- in one place it says federal preemption about radiation and the other says you're going to be doing an evaluation of the radio -- radiological materials. So if someone could explain the difference or what you are or are not going to do.

And even though there would be a radiological impact, it could actually require closing down I-5 or closing down beach access, all that kind of thing. Even if it doesn't fail, prior to it failing, they need to have a way to remediate those canisters so we don't have to shut down the freeway indefinitely.

So I would be interested in talking to whoever wants more information. Unfortunately, my retirement has been spent studying this stuff. So thank you.

MS. MARNI MAGDA: Thank you for being here in this important study.

33-3 (cont.)

I'm Marni Magda with the Sierra Club. It's the Angeles Chapter Task Force on San Onofre. And we're very concerned that you are looking at the pipes. I know you're not allowed. I'm confused by this hazardous radiological material. That maybe there is a way.

The greatest concern is after 30 years of use, we're just now putting grates to keep mammals from being sucked into the pipes, and now we're talking about maybe leaving those pipes in the ocean. They've had 30 years of what we call ALARA, which as little as reasonably achievable radiation.

I know you can't regulate without radiation, but somewhere the NRC has to be -- you have to include that the cement that no one's been near it as far as a football field to check what's happened for 30 years. That cement must be tested to find out what we're leaving, because the radiation does last for 10,000 to a million years. So we need to understand what we're leaving in the ocean. **33-4**

And it looked to me like Tom Palmisano said that Unit 1 was dispositioned in 2014. I may have gotten that wrong when I looked at the slides. But that means that since 1992 when that was shut down, they've been figuring out to what to do with it. So I don't know what he meant, and we can ask later. **33-5**

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I'm just very concerned that you use every way you can to protect our ocean. The change that I personally have watched since the year 2000 -- and I hope you're familiar with the Wheeler Reef mitigation that Southern California Edison has gotten zero mitigation points. The big fish haven't come back. The environment hasn't and that was not even at San Onofre. That's at San Clemente. So it must be tested.

33-6

We've got to find out if what we're doing -- if, you know, maybe for a while we would be dismantling things in the ocean. It would be disrupted for a while, but we've got to look at the 10,000-year look.

If those pipes have to come out, the cost has to be borne, and for a while the environment might be damaged, but you can't go with sonic as a reason to not fix it for that kind of time.

We could use the noise pollution up at Diablo, as you're thinking about your land that you own there, because noise pollution of 2 billion gallons of water going into the ocean every day sucked in and sucked back out with all of our large fish is a very useful way to say that these systems are destroying our ocean.

In the year 2000, I watched our ocean go from clear like a swimming pool with fish, billions of

them. It went to a murky in two years and has never recovered. We're hoping that it will with everything that everyone is doing. Please do everything you can to test for the safety of the ocean environment. It's been very hard having Southern California Edison's system in our ocean for this time. Thank you.

33-6 (cont.)

Oh, I had a question for Tom Palmisano. Am I allowed to ask that?

MR. CY OGGINS: You can speak to him after the meeting. This is our meeting now. Sorry.

MS. MARNI MAGDA: Okay. Thank you. I just thought because he talked about decommissioning.

MS. KELLY KEEN: Could I also have Cybil Streett.

Next one is Geoff Harris. And if Cybil Streett could come up and sit up here, or whenever you're ready, you can come up.

MR. GEOFF HARRIS: My name is Geoff Harris. I'm a resident here in San Clemente. My concern is about the safety of the residents, since it's my family, and that the whole process is done in a way with the utmost care for our safety and especially storing of the radioactive material that is put in the very safest place you have on the facility.

33-7

I've heard of things like canisters with concrete on the outside, which sounds like a great idea,

but I don't think -- I think your plan, after reading through it, it doesn't make sense. It seems to me like it's backwards. Because in Phase 1 you're dismantling the containment buildings and reactors 2 and 3. And in Phase 2, you're planning on shipping the materials out that have been already put into some kind of storage facility. So that doesn't make sense to me.

Because I think the safest place on the whole facility are the reactor buildings themselves, 2 and 3. They're the only things that have been built to withstand any kind of major disaster, major catastrophe. If anything can survive, those domes are what's going to survive. That's where the nuclear waste should be interim stored in those facilities, not -- whether they're in concrete and canisters, that's all the better.

33-8

But the first thing you need to do is to clean out those buildings, get all the pipes and tubes and the generators, all that stuff, out of there and then move the nuclear -- the spent fuel into there. Let it stay there until a repository is found where it can be safely shipped to and stored.

I know that the Edison Company and the federal government has been looking for over 30, 40 years to find a place, and you still haven't found it.

So I thought it was a little bit overly ambitious to assume that you would already have a place like that all ready to go in Phase 2.

So what I'm saying is I just hope that no expense is -- is not taken in making sure that that nuclear material, the spent fuel, is stored in the reactor domes themselves until it's shipped out, which means you cannot destroy the reactor domes in Phase 1. That's the part that's backwards. Thank you.

MS. KELLY KEEN: Cybil Streett.

MS. CYBIL STREETT: Hi. Sorry. Okay. Hi. So when they --

MALE SPEAKER: If you could introduce your name.

MS. CYBIL STREETT: Oh, hi. My name is Cybil Streett. I'm a local resident of San Clemente, down south San Clemente really close to the plant.

When they asked -- when I was asked when I came in to write the organization I'm with, it was easy for me to just write "Concerned mom and surfer."

When we think about the things that we have done as men and woman on this planet since we've arrived, a lot of the manmade things that we've done have historically not been good for our environment, and we have discovered this many, many years later.

In that vein, I feel like there's no way for

33-9

us to accurately predict all of the future damages to our oceans and marine life that can potentially come from leaving structures behind or not properly taking care of, especially this kind of hazardous waste.

I think that radiological impact long-term to our earth and ocean is something we really need to investigate to the fullest depth and a financial savings of leaving structures behind for our society and our country and our state taxes and things like that.

33-10

It does nothing to our society when compared to the possible damages that I think about for my kids and my grandkids and their grandkids and the future that we need to protect in front of us.

When we think about the taxes that we pay as California state residents and we think about all the things that we do and all the out-of-pocket expenses that we pay already to protect different areas of our coast, and the polar bears, I mean, you name it.

We are -- as a state, we are very strong-willed on protecting our environment for our kids and their grandkids. And I feel as though we need to keep that in mind when we're talking about what we're going to do with the future of this plant.

It was stated before, that this material could still cause impacts 10,000 to a million years from

now; right? And I hope that as a society, we're still around at that point.

But -- but I would like to always leave -- you know, in the Girl Scout and Boy Scout philosophy: Always leave the place a better place than it was before you got here. And we have to remember that. So I implore you guys to fully research the impact 10,000 to a million years from now. Thank you.

MS. CYNTHIA HERZOG: I believe we have no more speakers. Does anyone else wish to make a comment?

(No hands.)

MS. CYNTHIA HERZOG: The next public hearing on this project will be held during the release of the public draft EIR. We anticipate that meeting or meetings will occur in the second or third quarter of 2017. It's also anticipated that the Commission will consider the final EIR and the applicant's application in the third or fourth quarter of 2017.

Comments on the NOP, again, are due on August 15th, 2016. The contact information listed on this slide is also listed in the notice of preparation.

As previously mentioned, the Commission would like to receive comments regarding the scope and content of the EIR, including the range of actions, alternatives, mitigation measures, and signature impacts

that should be considered.

This concludes the second of the two sessions of the scoping meeting. Thank you for coming. The meeting is now adjourned.

(The proceedings concluded at 1:35 p.m.)

CERTIFICATE

OF

CERTIFIED SHORTHAND REPORTER

I, the undersigned, a Certified Shorthand Reporter of the State of California, do hereby certify:

That the foregoing proceedings were taken before me at the time and place herein set forth; that a verbatim record of the proceedings was made by me using machine shorthand which was thereafter transcribed under my direction; further, that the foregoing is an accurate transcription thereof.

I further certify that I am neither financially interested in the action nor a relative or employee of any attorney of any of the parties.

IN WITNESS WHEREOF, I have this date subscribed my name

Dated: August 5, 2016

<%signature%>

Michelle M. Cadwell, CSR No. 11261

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[& - begins]

SPEAKER SLIP

Scoping Meeting for Environmental Impact Report
SONGS Decommissioning Project
July 26 and 27, 2016

CALIFORNIA STATE LANDS COMMISSION

Name: W. Geoff Harris
(Please provide phonetic pronunciation if you think it is necessary as your name will be read for the record.)

Affiliation: Individual San Clemente Resident

Mailing Address: 21 Calle 501
Street or PO Box — Suite No.
San Clemente CA 92672
City — State — Zip

Phone No.: Optional (949) 361-8571
Area Code

Do you wish to be placed on the mailing list for this project? (YES) NO

If you do not wish to speak, you may provide written comments on the back of this sheet.

COMMENTS:

Nuclear waste (spent fuel) should be stored within the reactor units 2 & 3 after space has been made and those containment buildings should not be dismantled until the waste has been shipped to a safe repository.

W. Geoff Harris

33-8

SPEAKER SLIP

Scoping Meeting for Environmental Impact Report
SONGS Decommissioning Project
July 26 and 27, 2016

CALIFORNIA STATE LANDS COMMISSION

Name: Barbara Metzger

(Please provide phonetic pronunciation if you think it is necessary as your name will be read for the record.)

Affiliation:

Mailing Address: 2669 Nido Way
Street or PO Box — Suite No.

Laguna Beach — CA — 92651
City — State — Zip

Phone No.: Optional (949) 494-3624
Area Code

Do you wish to be placed on the mailing list for this project? (YES) NO

If you do not wish to speak, you may provide written comments on the back of this sheet.

COMMENTS:

Please include among the alternatives a project that calls for the immediate removal of the spent nuclear fuel (in other words, moving Phase 3 closer to the present).

33-11

For the dismantlement and decontamination phase, please require that the ultimate destination of the materials be determined in advance. (We understand that components of Unit 1 eventually had to be buried on-site.)

Security during the process should be commensurate with the risk, which remains high as long as the spent fuel is on site.

33-12

SPEAKER SLIP

Scoping Meeting for Environmental Impact Report
SONGS Decommissioning Project
July 26 and 27, 2016

CALIFORNIA STATE LANDS COMMISSION

Name: Verna Rollinger
(Please provide phonetic pronunciation if you think it is necessary as your name will be read for the record.)

Affiliation:

Mailing Address: 825 Park Ave
Street or PO Box — Suite No.

Laguna Beach CA 92651
City — State — Zip

Phone No.: Optional (949) 494-9878
Area Code

Do you wish to be placed on the mailing list for this project? YES NO

If you do not wish to speak, you may provide written comments on the back of this sheet.

COMMENTS:

to a sparcely populated area,
Spent rods must be moved. In the interim,
the casks chosen must be the strongest
available and the most easily transported.

Consider in your alternatives, the immediate
removal of the spent rods to an off-site
location.

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